MEDICAL LIBRARY

Volume 45—No. 6, June, 1952

JUL 8 1952

The Journal

ALFRED R. SUGG, M.D., ADA
O.S.M.A. 1952-'53 President

UNIVERSITY OF OKLAHOMA LIBRARIES

OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

Osler Bldg. Branch
Phone 2-4928

Medical Arts Bldg.
Laboratory
Phone 2-5233
For Emergency Service,
Holidays and
Night Calls 5-2166

The following services are
available to you —

Hematology
Bacteriology
Chemistry
Serology
Parasitology
Tissue Examinations
All phases of clinical pathology and pathologic anatomy

CONTINUOUSLY SERVING THE MEDICAL PROFESSION SINCE 1925

MEDICAL ARTS LABORATORY

MEDICAL ARTS BUILDING
OKLAHOMA CITY

W. F. KELLER, M.D., Director
DIPLOMATE OF THE AMERICAN BOARD OF PATHOLOGY

BALYEAT
HAY FEVER AND ASTHMA CLINIC

DEVOTED EXCLUSIVELY to the DIAGNOSIS and TREATMENT of ALLERGIC DISEASES

PASTEUR MEDICAL BUILDING

OKLAHOMA CITY • • • OKLAHOMA

GOLDFAIN RHEUMATISM-ARTHRITIS LABORATORY

228 NORTHWEST 13th STREET

OKLAHOMA CITY, OKLAHOMA

DEVOTED TO THE DIAGNOSIS AND TREATMENT OF RHEUMATIC DISEASES

X-RAY AND CLINICAL LABORATORY SURVEY OF EACH PATIENT

Preparation of Vaccines

E. GOLDFAIN, M.D.
Director

The JOURNAL Of The
OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XLV OKLAHOMA CITY, OKLAHOMA, JUNE, 1952 NUMBER 6

OFFICIAL PUBLICATION OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

"Copyright" 1952, Oklahoma State Medical Association

Issued Monthly under direction of the Council, 1227 Classen, Oklahoma City (3), Phone REgent 9-1648

TABLE OF CONTENTS

EDITORIALS

A Lost Government 203
Doctors as Patients 203
Tuberculosis, Browbeaten but not Whipped 204
Support of King and Queen 204
The Damned Human Race 205
Warning, A Snake in the Grass 205
Suit Settled 205

SCIENTIFIC ARTICLES

The Eisenmenger Complex with Patent a Ductus Arteriosus: A Case Report
Ben T. Galbraith, M.D. and Charles K. Holland, M.D. 206

Cholesterol and Atherosclerosis
Elmer R. Musick, M.D. 209

Treatment of Snake Bite
A. I. Ortenburger, Ph.D. 211

Transurethral Prostatectomy
Henry S. Browne, M.D. 216

CLINICAL PATHOLOGIC CONFERENCE 218

MEET OUR CONTRIBUTORS 210

PRESIDENT'S PAGE 222

HAVE YOU HEARD? 230

OBITUARIES 232

MEDICAL SOCIETIES AROUND THE STATE 232

BOOK REVIEWS 237

CLASSIFIED ADS 236

INDEX TO ADVERTISERS xxvii

EDITORIAL BOARD

L. J. MOORMAN, M.D., Oklahoma City, Editor-in-Chief
E. EUGENE RICE, M.D., Shawnee
BEN H. NICHOLSON, M.D., Oklahoma City
MARY LOU CRAHAN, Editorial Assistant
DICK GRAHAM, Oklahoma City, Business Manager
JOHN K. HART, Oklahoma City, Associate Business Manager

CONTRIBUTIONS: Articles accepted by this Journal for publication including those read at the annual meetings of the State Association are the sole property of this Journal.

The Editorial Department is not responsible for the opinions expressed in the original articles of contributors.

Manuscripts may be withdrawn by authors for publication elsewhere only upon the approval of the Editorial Board.

MANUSCRIPTS: Manuscripts should be typewritten, double-spaced, on white paper 8½ x 11 inches. The original copy and one carbon copy should be submitted.

Footnotes, bibliographies and legends for cuts should be typed on separate sheets in double space. Bibliography listing should follow this order: Name of author, title of article, name of periodical with volume, page and date of publication.

Manuscripts are accepted subject to the usual editorial revisions and with the understanding that they have not been published elsewhere.

NEWS: Local news of interest to the medical profession, changes of address, births, deaths and weddings will be gratefully received.

ADVERTISING: Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A.M.A. will not be accepted. Advertising rates will be supplied on application.

It is suggested that members of the State Association patronize our advertisers in preference to others.

SUBSCRIPTIONS: Subscription to THE JOURNAL is included in membership fee. Other subscriptions are $5.50 per year or 50 cents per copy with each request subject to approval of the Editorial Board.

REPRINTS: Reprints of original articles will be supplied at actual cost provided request for them is attached to manuscripts or made in sufficient time before publication. Checks for reprints should be made payable to Industrial Printing Company, Oklahoma City.

Entered as Second-Class Matter, January 30, 1940, at the Post Office in Oklahoma City, Oklahoma, under the Act of Congress March 3, 1879.

THE JOURNAL
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

EDITORIALS

A LOST GOVERNMENT

The people, once the government, have lost their sovereignty and have become slaves to the government they once possessed. They have sold their liberty and independence for subsidies and so-called security. All good citizens who are mature in mind with a normal sense of honor and integrity, are conscious of the insults heaped upon them by the bureaucrats in high places. How long must we endure the stupidity of an irresponsible, extravagant government that insists that the people cannot be trusted with their own local affairs including sacred personal interests such as making their own homes, saving their own money, and choosing their own doctors and doing their own charity.

Without consulting the people or their representatives, Mr. Truman confiscates private property, while Mr. Ewing proposes to use one man's money with which to pay another mans' hospitalization costs. In plain English it amounts to this—a man turns over to a stock buyer the estimated price of a pig. The pig is delivered. Nothing is said about the cost. But in time the man is notified of the fact there was a surplus and instead of returning it, he is using it to purchase a pig for someone else, perhaps the original purchaser's neighbor who never works and never saves, or perhaps the pig goes to a perfect stranger.

Is this gross injustice due to both deception and theft or is it the result of plain insanity. Is there any recourse? Yes, when only a pig is at stake, the offender is only a stock buyer, responsible for his acts. Not so when people are the objects of concern. Mr. Ewing is a bureaucrat. He can take our money, which should be refunded and spend it for the so-called security of others saying service will not cost us anything. That he can do this without batting an eye reveals his opinion of our intelligence.

How long, Oh Jupiter, must we endure such injustice! Shall we raise hell now and call a halt or shall we await the evil day of revolution. In the latter event, upon whose hands will the blood be?

DOCTORS AS PATIENTS

Apropos the old adage "doctors are poor patients," the late Max Pinner, M.D.,[1] a great pathologist, clinician, editor and medical writer conceived the idea of a book containing "auto-biographical sketches of disease by physicians." In correspondence with the writer in 1946 Doctor Pinner stressed the importance of broadening the term "symptoms" to include "the total subjective experience of the patient caused by the disease." This concept embraced all the emotional reactions to the patient's socio-economic conditions and his thwarted ambitions as conditioned by his disease.

This significant work interrupted by Doctor Pinner's death and later completed by his patient and friend, Benjamin F. Miller, M.D.,[1] has just come from the press.

Doctor Miller, responding to Mrs. Pinner's request that he finish the work so well begun, gives expression to his psychological gains and enlightened insight to the patient-physician relationship through his experience as Doctor Pinner's patient and more than 20 hospital admissions because of sarcoidosis.

A perusal of this interesting book should lead to a better approach to the patient as a composite whole and may in part explain why often doctors are considered poor patients. With their knowledge of disease and the inadequately explored influence of the psyche under the stress of disabling illness they weigh the attending physician with the hair trigger and occasionally find him wanting, particularly in the field of human understanding which, if fully encompassed, would render him more humane.

As a rule the knowledge of these shortcomings is artfully concealed by the physician-patient but occasionally vague, unintentional outcroppings lead to the belief that doctors are not good patients when in truth the non-conformity represents a masked recognition of the fact that doctors may prove to be poor doctors.

With discriminating philosophy, Amiel[2] said what doctors often think when they are

patients. "The principle grievance which I have against doctors is that they neglect the real problem, which is to seize the unity of the individual who claims their care. Their methods of investigation are too elementary; a doctor who does not read you to the bottom is ignorant of essentials."

Perhaps Pindar was right when he said the best thing in the world is wisdom, and in default of wisdom, science. The doctor who does not intuitively divine the suffering of the soul is wanting in wisdom.

---

1. When Doctors Are Patients. Edited by Max Pinner, M.D. and Benjamin F. Miller, M.D. First Edition. New York, W. W. Norton and Company, Inc. 1952. Price $3.95. 2. Ameil's Journal Intime of Henri-Frederic Amiel. Translated, with an introduction and notes by Mrs. Huhphrey Ward, A. L. Burt company, Publishers. Second Edition.

TUBERCULOSIS

BROWBEATEN BUT NOT WHIPPED

What the tubercle bacillus thinks of the antibiotics would make interesting reading. To date it may be said that 50 years of unceasing application of all the various preventive and therapeutic measures conceived by human ingenuity has failed to bring about full control of this baffling little bug.

There is great danger of overestimating the value of the statistical studies of the past 50 years. The phenomenal reduction in the U. S. death rate is encouraging but the whole story is not to be found in the available figures. The mortality rate as a guide has never been fully dependable.

In all probability it will require five or 10 years to determine the long range efficiency of the new therapeutic agents. In the meantime we are reducing the death rate through the prolongation of life, but the rate may rise again especially if the ultimate results of modern therapy are disappointing.

We must not forget that during World War II we sent millions of our young men into areas where the tuberculosis mortality rate was much greater than that in our own country and where infection with the tubercle baccilus was virtually 100 per cent. Many tubercle baccili returned with our men and the potential of manifest disease cannot be determined. Today our soldiers are fighting a fatiguing war in Korea where the tuberculosis mortality rate is 1,000 per 100,000 population as against our present rate of 22.2.

The never ending war in Korea with the present replacement policy will greatly augment the importation of these wary little parasites. Also we must remember that the several hundred thousand displaced persons and the estimated five million aliens who have entered the U. S. illegally, have come from areas where infection with the tubercle bacillus approaches 100 per cent. The latter slip into our country without examination. Even the routine entrance examination of the D. P.'s does not eliminate the hazards of potential disease. In spite of the phenomenal progress we have made toward the control of tuberculosis, and regardless of the uncertain possibilities of new drugs, physicians must be realistic and guard against the rising optimism that is endangering the organized agencies in the fight against this old enemy of mankind—this unpredictable bug full of tricks.

Though the mortality in this country has been cut to an all time low, it is doubtful if the battle is half won. Time alone can tell.

SUPPORT OF KING AND QUEEN

Princess Elizabeth, now Queen Elizabeth II, appeared at the Royal College of Surgeons of England and exulted in her admission to Honorary Fellowship.[1]

After an intelligent, generous and appreciative recognition of devotion she deprecated the destructive uses of new found scientific knowledge and said: "she was proud to be associated, as were her father and her mother, with this College which was doing so much to further the science and art of surgery, not only in this country but throughout the whole Commonwealth. She was especially glad to know that plans for the future included a residential college where 80 postgraduate students, many of whom would come from other parts of the British Commonwealth, might live and work."

Apparently no concealed political expediency, no suggestion of subsidy, control or coercion. How helpful it would be if those at the head of our own government could vouchsafe to us the unselfish recognition and the humane vision of the deceased King or the new Queen.

With fitting esteem the *British Medical Journal* of February 16, 1952, in leading articles extols the life of King Ceorge VI, la-

ments his death and extends homage to the new sovereign Elizabeth II.

1. Princess Elizabeth at the Royal College of Surgeons, *British Medical Journal*, December 22, 1951, page 1517.

"THE DAMNED HUMAN RACE"

Mark Twain said, "Man was made at the nd of the day when God was tired."

Maybe this accounts for Somerset Maughn's words appearing as title to this ditorial note.

Perhaps man's confusion, in the present ockeyed world on the verge of mass mania, s a belated testimonial to Mark Twain's bservation.

Thinking people would feel more secure f they knew just what the wise Creator on is great white throne is thinking.

The pastor of a church in central London worn with the problems of the great city consulted his physician. It was discovered that because of overwork he was threatened with a nervous breakdown and was told to take time out for an extended rest. That night he dreamed that he went to Heaven. Requesting his escort to let him see God on his great white throne, they approached the throne and found God pacing back and forth in front of the throne wringing his hands. Shocked to find this evidence of frustation he said, "What in the world does this mean? Why does God seem to be so upset?"

The escort replied, "He has just received word that his servant down in London is taking two weeks off."

When so many people have deserted the ranks of religion for the camp of the Philistines, naturally it is time to wonder. Yet it is interesting to recall that when there were only three men in the world, two of them were at war.

Whether they realize it or not, it is comforting that most good physicians are still in line with the sermon on the mount.

WARNING

A SNAKE IN THE GRASS

Elmer L. Henderson, chairman of the Coordinating Committee of the American Medical Association warns the profession against the dangerous propaganda in a moving story written by Alice Tisdale Hobart and published under the intriguing title *The Serpent-Wreathed Staff*.[1]

Because of the present popular interest in the progress of medicine and surgery and the agitation concerning medical care, the author, making use of the profession's traditional emblem may command a wide reading and because of the socialistic appeal, particularly in the latter part of the novel, the readers of the Journal should know that there is such a book and should be prepared to answer any questions that may arise because of the author's adroit approach to socialized medicine and her bold advocacy of principles which would rob both patient and physician of the benefits and satisfactions inherent in medicine as a free enterprise.

On the time honored staff the serpent with a healing lick has been replaced by one with a venomous fang. Physicians should be on guard and ready to warn their patients against the poisonous bite.

It should be understood that this is not an indictment of the author's sincerity but a warning against her illy conceived medical philosophy.

1. The Serpent Wreathed Staff, Alice Tisdale Hobart, Indianapolis, Ind., The Bobbs-Merrill Company. 1951.

SUIT SETTLED

The settlement of the Beckham County Medical Society-Farmers Union Cooperative Hospital suit brings to a close another chapter in the medical history of a young state.

The controversy over the years developed many charges and counter-charges; some perhaps well founded and others loosely conceived.

Controversies in medicine are nothing new, irrespective of whether they be in the field of scientific medicine, economies or the body politic. Generally speaking, the end results of controversies oftentimes bring about advances. However, in some instances, the opposite is the end result.

Without attempting to prophesy the end result of the settlement of this controversy, it can safely be said that if both sides will continue to work toward a continued understanding of each other's problem on a mutual trustworthy basis, it is believed that there will be advancement in the spirit of medicine for not only western Oklahoma but the State as a whole.

SCIENTIFIC ARTICLES

THE EISENMENGER COMPLEX WITH A PATENT DUCTUS ARTERIOSUS: A CASE REPORT

BEN T. GALBRAITH, M.D., AND CHARLES K. HOLLAND, M.D.

McALESTER, OKLAHOMA

In 1897, Eisenmenger[1] described a type of congenital heart disease similar to the tetralogy of Fallot but differing in one important point, namely the absence of stenosis in the outflow tract from the right ventricle. The pathology, therefore, is simply a high defect in the ventricular septum, usually with overriding of the aorta. The higher pressure in the left ventricle results in a reflex of blood into the right ventricle during systole and greater blood flow through the pulmonary artery. There is also some shunting of blood from the right ventricle to the aorta which may vary greatly in amount from patient to patient or in the same patient during the course of the disease.

The clinical course of the disorder has a characteristic pattern. At birth, there is no cyanosis and the child appears normal. Several months, or more often years later, cyanosis frequently develops and thereafter the prognosis is grave, the child usually not surviving for more than 10 or 12 years after the onset of cyanosis.

Examination of the lungs in any of these cases has shown obliterative changes in the pulmonary vessels.[2]. The concept has been advanced that cyanosis is due to improper oxygeneration of blood in the lungs[2] rather than a right to left shunt of venous blood. This explanation has been challenged recently, however because of the studies in a case in which the venous blood returning from the lungs was analyzed and found to show normal oxygen saturation.[3] As might be expected, no benefit has been found from the Blalock-Taussig operation.

This case is reported because the Eisenmenger Complex is one of the rarer types of cyanotic congenital heart disease, and this case in addition had a large patent ductus arteriosus.

CASE REPORT: This 15 year old white female was first seen by us on November 11, 1951, at St. Mary's Hospital, McAlester, Oklahoma. Her mother stated that she had "a little cold" and had been listless for about a week previously. She had gone to Sunday School that morning and returned home complaining of being tired and not feeling well. After coming out of the bathroom, she collapsed, lost consciousness for about three minutes, and became very blue and dyspneic. Her parents brought her to the hospital immediately.

The past history revealed that she was the youngest of three children. There were no notable complications at the time of the mother's pregnancy or birth of the child. The mother did not have German measles during pregnancy. She appeared to be a normal child in every way until about four or five years of age when she began to have "spells" of cyanosis and dyspnea on exertion. No "squatting" after exercise was recalled. The family physician described a "heart murmur" at this time. She attended school and engaged in most of the activities of a girl of her age except that strenuous exercise was avoided. She was examined by two other physicians who said she had a heart murmur which, according to a brief office record, was a loud apical systolic mumur. It was suspected that she might have rheumatic fever. At age 11, a tonsillectomy was done. She was said to have tolerated the anesthetic poorly. A few months after the tonsillectomy, a mass was found in the left side of her neck that was excised and found to be a branchial cleft cyst. She continued to go to school and develop fairly normally except for mild syanosis and dyspnea after unusual exertion. She failed to menstruate although her breasts enlarged and her body configuration was essentially normal for a girl of her age. Her two older brothers were healthy and there was no known incident of congenital heart disease in the family.

Physical Examination: The patient was a well nourished girl of stated age who was somewhat small in stature. She was moderately dyspneic, lying at rest. There was moderate cyanosis of the face, neck and nail beds. The lungs were normal to auscultation and percussion. The heart was not enlarged. A shock was palpable over the pulmonic area synchronous with the second heart sound. The pulmonic second sound was markedly accentuated. Heart rate was 130 per minute with regular rhythm. There was a Grade I or II soft systolic murmur at the pulmonic area. The femoral, radial and brachial pulsations were normal and equal. Blood pressure in m.m. of mercury was 130/80. The liver and spleen were not palpable. There was no ascites, edema, nor clubbing of the digits. Innumerable petechiae were present over the entire body.

Laboratory data: Rbc 7,240,000; hemoglobin 134 per cent; Wbc,11,700; neutrophils, 74; lymphocytes, 24; eosinophils, 2. Serologic test for syphilis was negative. Urinalysis was normal chemically and microscopically. The arm to tongue circulation time with Decolin was ten seconds.

Chest fluoroscopy showed increased prominence and convexity of the pulmonary artery segment of the cardiac silhouette. In the PA view, the portion of the right heart border which is formed by the right auricle projected further laterally into the right lung field than is usually seen. The hilar vascular shadows were moderately increased but no expansile pulsations nor hilar dance were detected. There was no enlargement of the left auricle in any view. The conclusions were: 1. Dilatation of the pulmonary artery; enlargement of the right ventricle and right auricle.

Electrocardiogram: There was prolongation of PR interval to a .22 of a second. The limb leads showed marked right axis deviation. The P waves were unusually tall. The precordial leads were consistent with right ventricle hypertrophy.

Hospital Course: The patient was kept at bed and given phenobarbital to allay her apprehension and restlessness. After the exertion of cardiac fluoroscopy on the second hospital day, she became critically dyspneic and cyanotic. This improved after 10 or 15 minutes of rest, oxygen by mask, and morphine gr. 1/8. The temperature ranged between 99 and 100 degrees. The diagnostic impression at this time was congenital heart disease, probably the Eisenmenger Complex. It was thought that a thrombus had probably formed somewhere in the heart or pulmonary circulation so as to increase the right to left shunt of blood and explain the abrupt change for the worse. Arrangments were made to send the child to Barnes Hospital, St. Louis, Mo., if her condition improved sufficiently to tolerate the trip, so that she might be further studied and appropriately treated if treatment was possible. On the third hospital day, she was more deeply cyanotic and a phlebotomy withdrawing 400 cc. of blood was done with some difficulty because of hypercoaguability of the blood. There was no definite change after the procedure. On the fourth hospital day, she became critically syanotic and died despite 100 per cent oxygen by mask and later under positive pressure.

Autopsy: The significant findings were limited to the chest. There was a large patent ductus arteriosus measuring 1.5 cm. The right ventricle of the heart was markedly thickened and dilated. The right auricle was also markedly dilated. There was no obstruction in the outflow tract of the right ventricle or pulmonary artery, indeed the pulmonary artery was considerably dilated. There was a large high ventricular septal defect that easily admitted a finger. The aorta took origin from both ventricles. No ante mortem thrombi or emboli were found in the heart or major pulmonary vessels. Unfortunately, no miscroscopic sections of the lungs were taken.

Anatomical Diagnoses: 1. High ventricular septal defect with overriding aorta; right ventricular hypertrophy; no pulmonary stenosis (the Eisenmenger Complex). 2. Patent ductus arteriosus.

Discussion: This case illustrates the usual course of this congenital heart defect, which is characterized by the delayed appearance of cyanosis and dyspnea with usually progressive symptoms and fatal termination. The cyanosis is thought by many to be due to changes in the pulmonary vascular tree and not a right to left shunt of venous blood. No satisfactory corrective or paliative treatment of this disorder has been devised.

The patient did not have the usual machinery type of systolic and diastolic murmur heard in cases of patent ductus arteriosus, but the occasional absence of this sign is well recognized. Because of the higher pressure in the pulmonary circuit, the blood flow

UNIVERSITY OF OKLAHOMA LIBRARIES

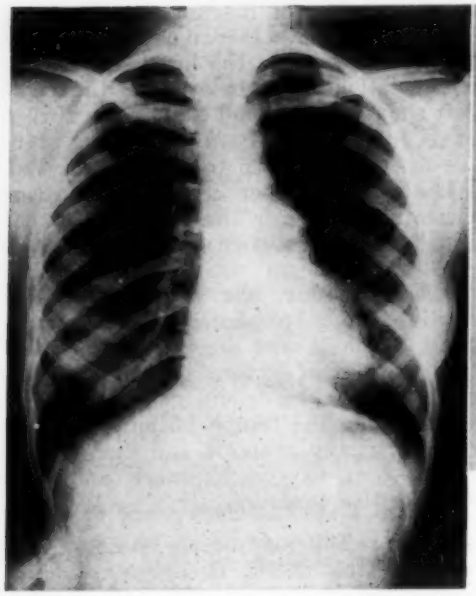


FIGURE 1. Chest x-ray taken one year before death. Prominent pulmonary artery segment present at that time. The right auricular enlargement seen at fluoroscopy is not present in this film.

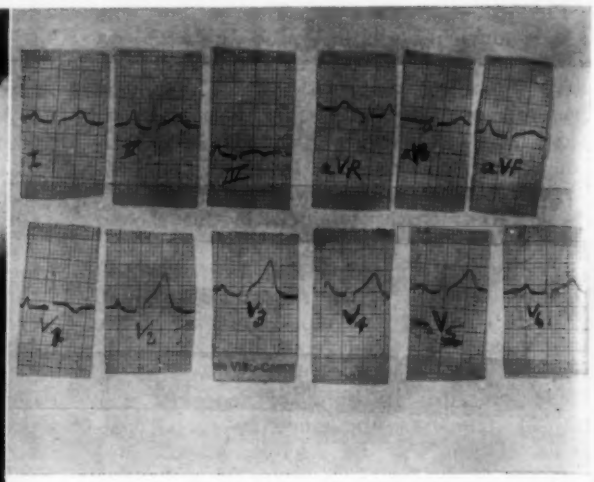


FIGURE 2. Electrocardiogram taken three days before death. Note prolonged AV conduction, tall peaked P waves and prominent R waves in right sided chest leads with a small Q in V1.

through the ductus may not have been great despite its large size. Indeed, the blood flow may have been from the pulmonary artery to the aorta during the terminal episode of marked cyanosis.

Conclusions:

1. A case of the Eisenmenger Complex with a large patent ductus arteriosus is presented.
2. The Eisenmenger Complex should be suspected in a child that develops cyanosis several months or years after birth.

BIBLIOGRAPHY

1. Eisenmenger, V. Die angeborenen Defecte der Kammer-Scheidewand des Herzens. Ztschr. f. klin. Med. 32 (Supplement): 1-28, 1897.
2. Taussig, H. B., Congenital Malformations of the Heart, The Commonwealth Fund, 1947.
3. Goldberg, H., et al, The Dynamics of Eisenmenger's Complex, Circulation 4:343, 1951.

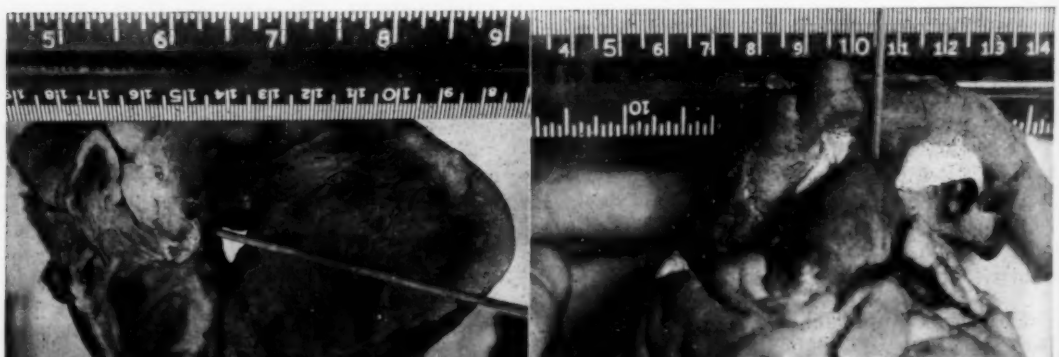


FIGURE 3. View of the right ventricular side of the septum to show the large defect. Just above the ventricular septal defect is the dilated pulmonary conus. The wooden applicator is projected into the aorta to demonstrate the overriding.

FIGURE 4. View of the heart to show the large patent ductus which is designated by the probe. Note the large size of the ductus and the pulmonary artery.

CHOLESTEROL AND ATHEROSCLEROSIS*

ELMER R. MUSICK, M.D.
OKLAHOMA CITY, OKLAHOMA

During the past few years we have seen the terms cholesterol and atherosclerosis closely linked together in many investigative studies. This has been due mainly to the fact that a higher than normal serum cholesterol was found by one investigator in a majority of cases of his series of coronary sclerosis, and also to the emphasis on a certain group of diseases in which high cholesterolemia and atherosclerosis are associated.

Many of us have been especially interested in this subject although we have been limited in our efforts at investigative work. In an effort to clarify these correlations, a review of the literature, particularly investigative articles, has been made in order to understand any application that there might be to the clinical management of our patients. It is upon such a basis that this paper is presented.

Cholesterol is chemically an alcohol, related to the steroid substances which include beside the sterols, the D vitamins, bile acids, sex hormones, saponins, glucosides of digitalis, carcinogenic substances, and the so-called "organizers of the embryo."

It is an essential of all body fluids and body cells; an important means of transportation of fatty acids in the blood; a precursor of cholic acid; an important source of Vitamin D; and a biological precursor of the steroid hormones.

It aids in the absorption of fatty acids with bile salts and bile acids; it is normally present in the neural sheaths where it acts as an insulator along the entire sheath. It may have a role in cell permeability and in immunologic reactions. The red blood cells are more susceptible to breakdown in a depletion of cholesterol.

We can understand then that it is a very complex and important substance, with a relationship to varied and essential body functions.

Cholesterol is obtained for use in the body from two sources: exogenous and endogenous. The exogenous source is by ingested food high in cholesterol, namely, milk, butter, cheese, egg yolk, oysters, animal fats, brains, liver, and sweetbread. The endogenous sources are from the liver, skin, and intestine. The liver apparently has the ability to synthesize cholesterol from the carbohydrate, protein, and fat of the body. The method by which the liver accomplishes this is still unknown.

The blood serum cholesterol is elevated, in most instances, in a number of diseases, none of which seem to have anything else in common except this elevation and atherosclerosis. These diseases are diabetes, nephrotic stage of nephritis, myxedema, obstructive jaundice, and xanthomatosis. We might also add another as a possibility—coronary sclerosis.

There are only a few experimental facts that all are agreed upon: it has been definitely proven that high cholesterol feedings will elevate the serum cholesterol; atherosclerosis can occur with a normal or below normal serum level; the serum cholesterol is variable in individuals, and at different times of the day, usually being highest about four hours after the meal; absolute starvation will not cause a lowering of the level, on the contrary a higher than normal will occur. The blood serum level can usually be reduced by a fat free diet, a low cholesterol diet, by coating the bowel with mineral oil, and by two foods—the so-called "decholesterolizing foods"—artichokes and egg plant. The reason for this action by these two foods is unknown. There is usually decreased cholesterol level in infections and steatorrhea.

Certain families seem to have a higher level of blood cholesterol than that which is classed as normal, and without apparent shortening of life or more susceptibility to atherosclerosis.

It has also been shown that some substances such as inositol, choline, methionine, and pyridoxine seem to act as decholesterolizing agents.

It seems that the exogenous sources can at least be partially controlled, but as yet we have no way to control the endogenous.

Summarizing this general problem Doctor Paul White and his associates, in the study of diet, serum cholesterol, and coronary artery disease pointed out these facts:

*Presented before the Washington Birthday Conference in Oklahoma City, February 22, 1952, and the Arkansas-Oklahoma Regional Meeting of the American College of Physicians, Hot Springs, Arkansas, September 29, 1951.

First, that the assumption has been that the serum cholesterol was the cause of coronary artery disease.

Second, that the serum cholesterol was dependent on the cholesterol of the food intake.

Third, that coronary artery disease is higher in Americans than in Orientals, which has not been scientifically proven.

Fourth, that in that group of diseases with high cholesterolemia it was also assumed that the high serum cholesterol was the cause of the atherosclerosis.

In his series of coronary and non coronary groups fed low cholesterol diets he was unable to see that any advantage was gained.

On the other hand some investigators have claimed the opposite—that they did find a relationship of high cholesterol diets to the incidence of coronary sclerosis.

At one time it was felt that hypertension was the probable cause of atherosclerosis. Now it is felt that they are often associated, but that neither is the cause of the other.

We are told that among the daily nutritional needs of our bodies are certain essential foods such milk, butter, egg, and meat. These foods are also high cholesterol foods.

It is difficult to understand, with our present knowledge of cholesterol, with its many essential body functions known and perhaps many unknown, how we can say that atherosclerosis can be prevented by attemping to keep a low serum cholesterol, either by food intake, by feeding decholesterolizing foods, or by prescribing certain substances as choline and inositol. There seem to be other factors entering into this relationship.

If we as internists drastically limit the cholesterol intake by the elimination of essential foods for body needs, we must face the possiblity of altering the body metabolism to such an extent that other metabolic diseases may occur.

BIBLIOGRAPHY

1. Wilkinson, Chas. Jr.; Blecha, E.; Reimer, Ann: Is There a Relation Between Diet and Blood Cholesterol? Arch. Int. Med: 85:289 (March), 1950.
2. Sachs, Bernard A.: Dietary Cholesterol: Its Role in Atherosclerosis. Amer. Pract: 3:284, Jan. 1949.
3. Gubner, Richard; Ungerleider, Harry E.: Arteriosclerosis. A Statement of the Problem. Am. J. Med.: 6:60 (Jan.) 1949.
4. Gertler, M. M.; Garn, S. M.; and White, Paul D.: Diet, Serum Cholesterol and Coronary Artery Disease. Circulation: 2:696 (Nov.), 1950.
5. Stamler, J.; and Katz, L. N.: Production of Experimental Cholesterol induced Atherosclerosis in Chicks with Minimal Hypercholesterolemia and Organ Lipidosis. Circulation: 2:705 (Nov., 1950.
6. Stamler, J.; Bolene, C.; Harris, R., and Katz, L. N.: Effect of Choline and Inositol on Plasma and Tissue Lipids and Atherosclerosis in the Cholesterol-Fed Chick. J. Circulation: 2:714 (Nov.), 1950.
7. Morrison, L. M.; Gonzales, P.; and Wolfson, E.: The Phospholipid-Cholesterol Ratio as a Test for Atherosclerosis. J. Circulation: 2:472 (Sept.), 1950.
8. Adlersberg, D.; Shaefer, L. E.; Drachman, S. R.; and Dritch: Incidence of Hereditary Hypercholesterolemia. J. Circulation: 2:475 (Sept.), 1950.
9. Morrison, L. H.; Zwirlein, H.; and Wolfson, E.: Effects of Low Fat, Low Cholesterol Diets on Serum Lipids. J. Circulation: 2:475 (Sept.), 1950.
10. Morrison, L. H.; and Gonzales, W. F.: Effect of Choline as a Lipotropic Agent in the Treatment of Human Coronary Atherosclerosis. Proc. Soc. Exper. Biology and Med.: 73:37 (Jan.), 1950.
11. Keys, A.; Michelson, O.; Miller, E. V.; Hayes, E. R.; and Todd, R. L.: The Concentration of Cholesterol in the Blood Serum of Normal Man and its Relation to Age. J. Clin. Invest.: 29:1347 (Oct.), 1950.
12. Machella, Thos.; Mellikoff, S.; and Reinhold, John: The Effect of a Fat Free Diet in Causing Low Serum Cholesterol. Am. J. Med. Sc.: 220-203 (Aug.), 1950.
13. Editorial: The Relation of Cholesterol to the Development of Atherosclerosis. Ann. Int. Med.: 33:250 (July), 1950.
14. Human Physiology. Houssay.

MEET OUR CONTRIBUTORS

Elmer R. Musick, M.D., F.A.C.P., Oklahoma City, has a paper on "Cholesterol and Arteriosclerosis" in this issue. Doctor Musick, whose specialty is internal medicine, was graduated from Northwestern University in 1922. He served his residency and internship at University Hospital, Oklahoma City.

Ben T. Gailbraith, D.M. and *Charles K. Holland, M.D.,* both of McAlester, are joint authors of "The Eisenmenger Complex with a Patent Ductus Arteriosus: A Case Report." Doctor Galbraith was graduated from the University of Tennessee in 1944. He interned at Denver General Hospital and took a two year residency in internal medicine at Kennedy V. A. Hospital, Memphis. He spent 24 months in the service and was a captain when released from service.

Doctor Holland, who also took his residency at Kennedy V. A. Hospital, was graduated from Vanderbilt in 1945. He interned at the University of Alabama Hospital. Doctor Holland was also a captain in the army and served 20 months overseas.

Henry S. Browne, M.D. wrote "Transurethral Prostatectomy" in the June Journal. Doctor Brown, who is certified by the Board of Urology, was graduated from Tulane in 1914 and interned at Charity Hospital, New Orleans. He is chief of staff of the urology section at St. John's Hospital, Tulsa.

A. I. Ortenburger, Ph.D. is professor of zoological sciences at the University of Oklahoma. His article on "Treatment of Snake Bite" is the second he has had published in the Journal of the Oklahoma State Medical Association as a prior article on snakes prevalent in Oklahoma.

E. E. Shircliff, M.D. and *Howard C. Hopps, M.D.,* both of Oklahoma City, have a Clinical Pathologic Conference in this issue of the Journal. Doctor Hopps is familiar to readers of the Journal as his articles have been appearing several times each year in the Journal. Doctor Hopps, who is chairman of the Department of Pathology and Professor at the University of Oklahoma School of Medicine, has been certified by the Board of Pathology. He was graduated from the University of Oklahoma in 1937 and interned at Evanston Hospital, Ill.

Doctor Shircliff was graduated from the University of Kansas in 1939 and interned at Santa Barbara General Hospital in California. He took a four year residency at the Regional Hospital, Camp Swift, Texas. Doctor Shircliff served 45 months in the army in World War II and was a major.

TREATMENT OF SNAKE BITE

A. I. ORTENBURGER, PH.D.
NORMAN, OKLAHOMA

The people of Oklahoma are fortunate because most of our 60 species and subspecies of snakes are not only harmless but actually beneficial. There are only a few kinds of venomous snakes in the State. Of these, five are without doubt dangerously poisonous and six others, being smaller, are less to be feared.

Anyone who hikes, climbs, fishes or camps should know our poisonous snakes. There are seven forms of rattlesnakes found in Oklahoma. Four are large enough to be very dangerous while the other three, the massasaugas, are small snakes (Fig. 1). The most dangerous form in Oklahoma is the only too common diamond-back rattlesnake (Figs. 2, 10). The timber rattlesnake (Figs. 8, 9), the canebrake rattlesnake, and the prairie rattlesnake (Figs. 3, 11) may also reach formidable size. The other poisonous snakes in Oklahoma are the cottonmouth moccasin, which if large is also quite dangerous, and the copperhead (3 subspecies) (Fig. 4).

All our poisonous snakes are pit vipers,[1] so-called because of a noticeable pit located on either side of the head between the external nasal opening and the eye (Figs. 1, 2, 3, 4, 5, 8). This pit has been shown to be thermo-sensitive. None of our harmless snakes have this pit (Fig. 7). The venom produced by these pit vipers is largely hemolytic and endotheliolytic in action.

It should be easy to identify any of our rattlesnakes because they possess the well known rattle or at least a button on the end of the tail (Fig. 6). The cottonmouth moccasin (Fig. 5) is commonly confused with any of our several harmless water snakes or as they are often called water moccasins. The only easy way to tell the difference between the poisonous cottonmouth moccasin and the ordinary water snakes is to see if the pit is present or not; if there is a pit the snake is the cottonmouth. Copperheads (Fig. 4) are also frequently confused with harmless snakes. The copperhead, like our other poisonous snakes, also has the pit, and in addition a bright reddish or copper-colored head. Statistically the copperhead is the least dangerous of all our poisonous snakes, size for size; of 1089 cases of copperhead bites reported for two years there were no fatalities. Incidentally, in spite of very common stories to the contrary, there are no poisonous lizards in the State.

One of the difficulties the medical man encounters when a snake bite victim is brought to him for treatment is that the person usually has no idea what kind of snake bit him. The situation is often rendered difficult by the patient being hysterical. He may feel certain that it was a poisonous snake that bit him and will imagine anything to prove his point. One can only go on the assumption that it was a poisonous form because to delay treatment would be very unfortunate.

If the bite was that of a poisonous snake there will have been distinct burning pain felt from the time of the bite. Even this in many instances is difficult to assess but other signs soon appear. The "pain" from the bite of a harmless snake is no more than that caused by scratching the skin with several needles. If a poisonous snake has been responsible for the bite, reddening and swelling become apparent around the site of the wound within five to 10 minutes. It is often thought that if the bite is that of a poisonous snake there will always be two clean easily seen puncture wounds made by the fangs. This is not always the case as the victum may jerk away and thus there will be a certain amount of tearing of the skin by the numerous teeth as well as by the fangs.

It is well to remember that no snake-bite victim has ever died as the result of overtreatment of the proper sort. The usual home "remedies" are quite worthless or worse even though some of them have ardent supporters. Known recoveries of individuals treated with such useless remedies can easily be explained, as most people will recover from a venomous bite even if nothing is done; further, many bites supposedly of poisonous snakes are actually those of harmless ones. Drinking of whiskey or other alcoholic beverages and the application of such substances as potassium permanganate to

[1] There is a real possibility, however, that the coral snake will be found in extreme southeastern Oklahoma. It is a dangerously poisonous form of another group with a neurotoxic type of venom. There are numerous reports of its presence in the State but these are unverified. It is easily confused with two or three of our harmless snakes.

UNIVERSITY OF OKLAHOMA LIBRARIES

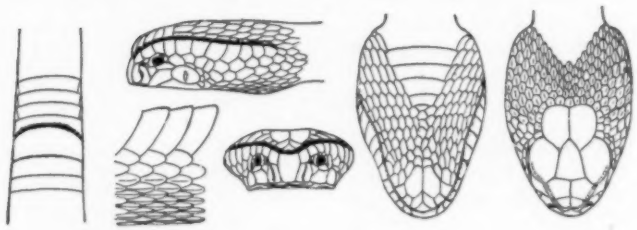


FIG. 1. Massasauga. (From Cope). x 1.

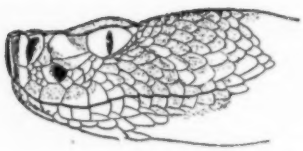


FIG. 2. Pit on side of head of Diamond-Back Rattlesnake. (From Stejneger). x 1.

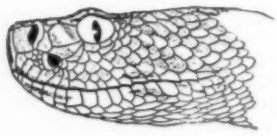


FIG. 3. Pit on side of head of Prairie Rattlesnake. (From Stejneger). x 1.

FIG. 4. Copperhead. (From Stejneger). x 1.

FIG. 5. Cottonmouth Moccasin. (From Stejneger). x 1.

FIG. 6. Rattle of Rattlesnake. (From Stejneger after Garman). x 1.

FIG. 7. Blue Racer. (From Cope). x 1.

the wound are strictly to be avoided. Proper treatment may be divided into three steps.

1. *The use of the tourniquet.* Whenever possible a tourniquet should be applied immediately a couple of inches above the site of the bite, that is, between it and the heart; (40 per cent of all bites are on the arm or leg). It has been shown conclusively that unless the fang happens to enter a blood vessel most of the toxin from a snake bite travels by way of the superficial lymphatics and veins; hence the tourniquet should be only tight enough to restrict the flow of lymph or blood in the superficial vessels.

2. *Incision.* Cross- or "T"-shaped incisions should be made through the site of the bite or the fang punctures if they can be seen. The physician will have to use his judgment as to the depth of these incisions. They should be made as deep as the fangs have penetrated, perhaps 6 mm. to 9 mm. if the snake was of medium size, for example a copperhead. They should be correspondingly deeper in the case of a bite from a large snake like a large timber or diamond-back rattlesnake. Obviously such incisions should be made so as not to sever any large blood vessels, nerves, or tendons or to cut through the periosteum.

3. *Suction.* Negative pressure or suction should be applied to the wounds. It is essential to begin this as soon as possible. Speed is of the utmost importance in applying the tourniquet, in making the incisions and in beginning suction, in this order. The more venom that can be removed before it has a chance to enter the general circulation, the more favorable will be the prognosis. Jackson and others have shown that the suction treatment is very effective. If no suction device is available, good results may be obtained by the use of the mouth, and this is a safe procedure if the individual sucking the wound has no break in the oral mucosa. The venom can be swallowed with impunity, if, again, there is no break in the mucosa of the alimentary tract. If swallowed the venom is digested without any harm. Snake-bite kits are available at many drug stores and are very much more effective than the mouth for suction. If at all possible such a kit should be obtained at the earliest moment and used. Suction should be continued for a considerable period of time. One good method is to apply suction for five to 10 minutes, then loosen the tourniquet for a few seconds, then tighten the tourniquet and continue to repeat this procedure. In serious cases of snake-bite poisoning it is highly advisable to continue suction as outlined above for as long as 10, 15, or 20 hours.

4. *Later treatment.* Swelling will probably progress proximally along the arm, if the wound, for example, is on this extremity. In such case the tourniquet should be moved along the arm towards the body and kept in a position just proximal to the swollen portion. Remember to keep the tourniquet tight enough to retard the flow of blood and lymph only in the superficial vessels. Harm may result if the tourniquet is too tight. It should be loose enough to admit one or two fingers quite easily.

Because of the fact that anything which increases the rate of blood flow will of necessity increase the rate of distribution of any venom that is getting into the blood stream, it is highly important to keep the patient as quiet physically and as calm as possible. The treatment will vary of course with the individual. Ordinarily sedation by the use of one of the more rapidly acting barbiturates is indicated. Many individuals can be given some real confidence if they can be convinced that the death rate from the bite of our poisonous snakes is low even without *any* treatment and that with the proper surgical treatment the death rate is very low (1.5 per cent to 2 per cent). It is certainly obvious that the use of stimulants is to be avoided.

As swelling progresses it is advisable to make numerous shallow incisions through the skin of the swollen area distal to the tourniquet. The use of a local anesthetic before making the incisions is not contraindicated and some believe this actually helps in reducing the absorption of the venom. Apply suction to these incisions also. Thus venom still present in any particular region will ooze out along with the blood and lymph; all venom that can be removed in any way whether by suction or further incisions and suction cannot enter the circulation to do further damage.

One of the properties of pit-viper venom is that it not only destroys large quantities of red blood corpuscles but at the same time breaks down the endothelium of the smaller blood vessels. The resulting extravasation produces a very noticeable discoloration of the region affected. Other clinical symptoms such as weakness, dizziness, profuse sweating, and nausea may become manifest, and may be treated symptomatically. Particular care should be taken for as long as some

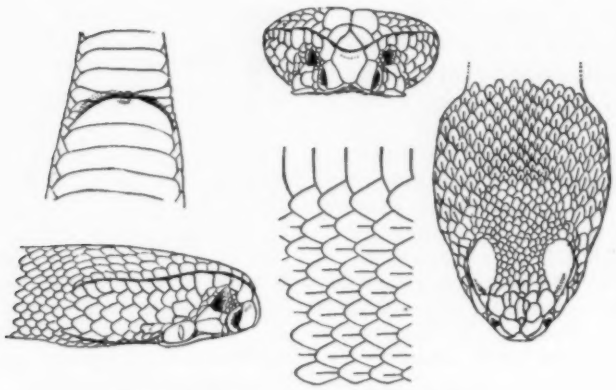


FIG. 8. Timber Rattlesnake. (From Cope). x 1.

weeks to watch for the development of secondary infections. The venom seems to destroy the natural bactericidal action of normal blood to some extent.

No paper concerning the treatment of poisonous snake bites would be complete without the mention of the use of nearctic Crotalidae polyvalent antivenin. The use of antivenin has by no means proved completely effective. Under certain conditions its use may be indicated. It may be advisable if the patient is a small child or an elderly person in poor physical condition, or in other serious cases. It is not to be inferred that antivenin is useless. There are, however, certain important considerations to be kept in mind. First, five ampoules, a total of from 50 cc. to 75 cc. of the antivenin should be injected. A smaller amount is of little value in most cases. The injections should be intramuscular directly into the bite area and also proximal to this area. Small children require proportionately more than adults because a certain amount of venom injected by the snake will actually be a larger amount relative to the blood volume than it would be in the adult. Also, the larger the snake, the better is the chance that a larger amount of venom will have been injected and hence more antivenin may then be necessary. Second, the use of such quantities of antivenin is not without danger to the patient, particularly because of of the likelihood of severe anaphylactic shock. On the other hand, the treatment with antivenin apparently is helpful in very severe or critical cases even if not used until many hours after the individual has been bitten. The physician must use his judgment in such cases.

In case of doubt concerning the individual's condition, *whole* blood transfusion is strongly advised, first, because of the hemolytic effect of the venom itself, second, because of the loss of blood resulting from the perhaps very numerous incisions made, and third, because of extravasation resulting from the partial destruction of the smaller blood vessels. In this connection it is well to keep in mind that if any large quantity of the toxin enters the general circulation there may be severe hemorrhage from abdominal and other vessels.

Summary: *1.* Unless the patient is hysterical it should be easy to determine within a few minutes whether or not the snake that delivered the bite was a poisonous one. If it was poisonous there is a severe burning pain at the site of the bite almost immediately or within a very few minutes. Within a few more minutes there will be swelling and discoloration in the area and a feeling of general malaise. *2.* The services of a competent physician should be obtained at the earliest possible moment, and in the meantime the victim should do nothing to increase the rate of circulation. *3.* A loose tourniquet should be applied as soon as possible above the site of the bite. *4.* Cruciate incisions should then be made at the site of the bite. *5.* Suction should be begun at once using the mouth if no suction apparatus is available. It is better to continue intermittent suction too long than not long enough. *6.* Whiskey and other alcoholic drinks are strongly contraindicated. *7.* As swelling progresses towards the heart from the site of the bite the tourniquet should be kept above the swollen area. *8.* Many more shallow incisions should be made through the skin of this swollen area and suction applied to these incisions. *9.* Over-treatment or over-hospitalization is

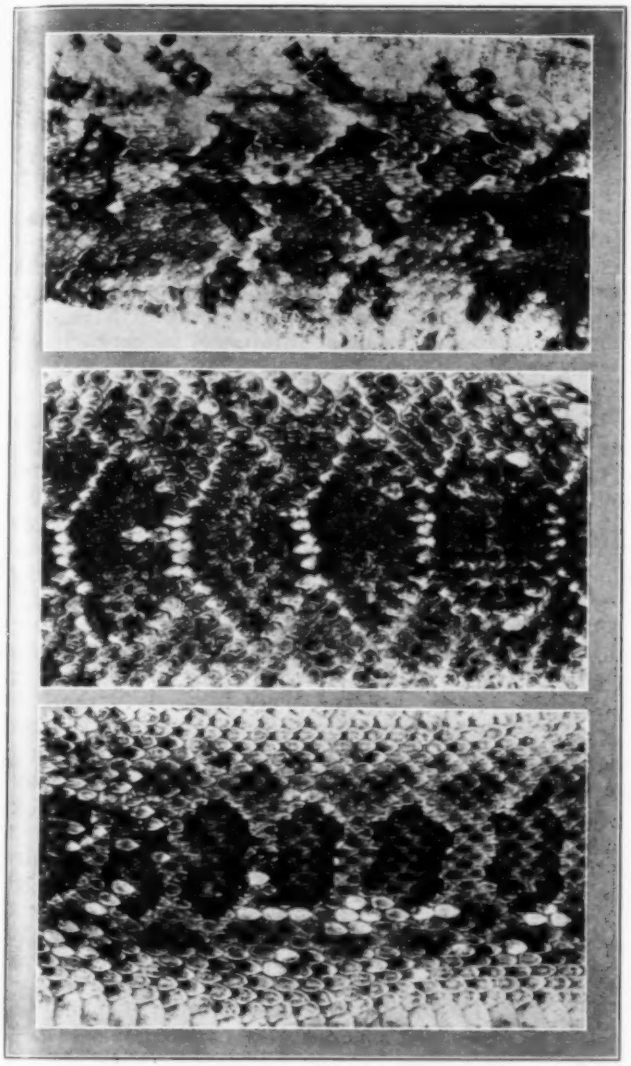


FIG. 9. Dorsal Pattern of Timber Rattlesnake, x 5/8.

FIG. 10. Dorsal Pattern of Diamondback Rattlesnake, x 1/2.

FIG. 11. Dorsal Pattern of Prairie Rattlesnake, x 3/4.

quite unlikely. *10.* The use of sedatives is advised in those cases where it seems at all necessary to keep the patient calm and quiet. *11.* The use of antivenin is advised when in the judgment of the physician its probable advantages outweigh the objections. *12.* Transfusion of whole blood is advised in serious cases, or whether doubt exists about the patient's satisfactory progress. *13.* The danger of later infection must be kept in mind for some weeks following recovery.

BIBLIOGRAPHY

Conant, Roger. Reptiles and Amphibians of the Northeastern States, Philadelphia: Zool. Soc., Philadelphia, second edition, p. 15. 1952.

Curran, C. H., and Carl Kauffeld. Snakes and Their Ways. New York; Harper & Bros., pp. 25-45, 1937.

Githens, T. S. Snake Bite in the United States. Sci. Monthly, vol. 41, pp. 163-167. August, 1935.

Gloyd, Howard K. Snake Poisoning in the United States: A Review of Present Knowledge. Bull. Jackson Park Branch Chicago Med. So., vol. 15, no. 7, pp. 3, 5, 7, 9, 11; no. 8, pp. 13, 15, 17. 1938.

Gowanloch, James N., and Clair A. Brown. Poisonous Snakes, Plants, and Black Widow Spider of Louisiana. New Orleans: Louisiana Dept. Conservation, pp. 22-27. 1943.

Harmon, R. W., and B. B. Pollard. Bibliography of Animal Venoms. Gainesville; Univ. Florida Press, pp. 1-340. 1948.

Jackson, D. First Aid Treatment for Snake Bites. Texas State Journ. Med., vol. 23, p. 203. 1927.

Jackson, D., and T. S. Githens. Treatment of Crotalus atrox Venom Poisoning in Dogs. Bull. Antivenin Inst. Amer., vol. 5, p. 1. 1931.

Jackson, D., and W. T. Harrison. Mechanical Treatment of Experimental Rattlesnake Venom Poisoning. Journ. Amer. Med. Association., vol. 90, pp. 1928-1929. June 16, 1928.

Ortenburger, A. I. Snakes—Harmless and Poisonous. School, Sci., and Math., vol. 30, no. 2, pp. 166-170. February, 1930.

——— ——— A Key to the Lizards and Snakes of Oklahoma. Univ. Oklahoma Biol. Survey, vol. 2, no. 4, pp. 209-239. 1930.

Pope, Clifford H. The Poisonous Snakes of the New World. New York Zool. Soc., pp. 1-47. 1944.

Pope, Clifford H., and L. W. Peterson. Treatment of Poisoning with Rattlesnake Venom. Arch. Surgery, vol. 53, pp. 564-569. November, 1946.

Schmidt, Karl P., and D. Dwight Davis. Field Book of Snakes of the United States and Canada. New York: G. T. Putnam's Sons, pp. 36-43. 1941.

TRANSURETHRAL PROSTATECTOMY*

Reporting 252 Consecutive Cases Without A Death

HENRY S. BROWNE, M.D.

TULSA, OKLAHOMA

When prostatic resection first came into use, we all thought it was a distinct advance over the previous methods in that we now had visualization and could see what we were cutting. As we became more proficient in the use of the resectoscope, we removed more and more tissue until we finally realized we were doing a transurethral prostatectomy. Although I have been doing that for many years, I have been diffident in using the term until recently when a case in which 63 gms. of tissue had been removed 18 months previously, died and came to autopsy. With reference to the prostate Doctor Lowbeer stated "There is an almost complete defect of the prostate but the defect is covered with mucosa. Only small lobular remnants of the prostate can be found to protrude slightly into the lumen."

About 80 per cent of all prostatic obstruction is caused by the benign hyperplastic gland. This originates from the small glands just beneath the mucous membrane of the porterior urethra, which, as they grow larger compress and thin out the true prostate, which then forms the so called capsule, so that a prostatectomy really means the removal of the adenomatous tissue, while the prostate is left behind. Some divide the glands into those small enough to resect and those too large to resect. I could never see the difference, feeling that in the larger glands, simply more tissue had to be removed to get the desired result. Transurethral resection, as has been said many times, is a marvelous operation and when done properly, the patient will void a full, free stream and empty his bladder, which is what nature intended. As the gland has been entirely removed, there is no more chance of recurrence than in any other type of operation. At the present time, better than 98 per cent of my cases are resected.

Many of these old men have cardiovascular disease and other degenerative changes so that many are very poor risks. These are gotten into as good condition as possible and then operated on and it is amazing that there is rarely any untoward reaction following surgery. The majority receive no preliminary drainage, but if the NPN is elevated, there is severe nocturia, marked residual urine or badly infected urine, continuous catheter drainage is carried out. Blood counts and NPN are taken and the prothrombin time estimated. Vitamin K is given routinely and fluids forced. A tonic is given and small doses of gantrisin. The prothrombin time is brought up to 100 per cent, if possible. If there has been recent cardiac failure, compensation should be established for at least a month. The patient should feel good, eat well and have a good urine output before surgery, but a certain number improve up to a point and then remain stationary. There is then no choice but to operate, because they cannot go on as they are and there is so little shock to the operation that they are rarely disturbed by it. Transfusions are given liberally both before and after the operation and I consider this the most important thing in bringing these patients thru successfully, besides doing the resection properly. Three grains of nembutal are given two hours before surgery and 100 mgm. of novocain spinal anesthesia is used. Bilateral vasectomy is done only in the debilitated and those over 70. The main dangers of the operation are (1) cutting into the rectum (2) cutting thru the bladder (3) hemorrhage (4) incontinence (5) the removal of an insufficient amount of tissue. All of these can be reduced to a minimum by following the proper procedure. (1). By removing the median lobe first, the floor of the prostatic cavity is outlined so that there is then no danger of cutting into the rectum. Resection is not carried any deeper than the level of the bladder. (2). One lateral lobe is then undermined from the bladder back to the verumontanum. In this process, one of the main arteries is cut and the dissection carried down to the circular parallel fibres of the bladder muscle before the artery is fulgurated. This will take care of most of the bleeding from that lobe. The intravesical part of this lobe is then removed flush with the bladder neck which is thus outlined, and the

*Presented before the monthly meeting of St. John's Hospital, Tulsa, Oklahoma, October 15, 1951.

danger of cutting thru the bladder on that ide is then past. The lobe is then overmined which leaves a large piece of prostate stick- ng out into the urethra, where it can be emoved rapidly and safely. The same pro- edure is carried out with the other lateral obe. (3). Hemorrhage is kept to a minimum y removing one lobe at a time and spark- ng the bleeding of each at the end. By ful- urating the main artery first, as described bove, before removing a lateral lobe, bleed- ng is greatly reduced, and finally the entire perated area is thoroughly searched for mall bleeders before the catheter is put in nd the patient returned to his room. The ime to stop bleeding is on the operating able. Transfusions are given without hesi- ation even in cases of moderate blood loss. 4). The external sphincter lies just outside he verumontanum and all of the hypertro- hied tissue is beyond the veru. Therefore, f the veru is intact at the end of the opera- ion, the sphincter is intact and there will e no incontinence. (5). If an insufficient mount of tissue is removed, the patient is ar worse than he was before, because the apsule has been opened and the blood sup- ly cut off, so that the remaining tissue is devitalized, sloughing and infected, which leads to dysuria, frequency, difficulty and intermittent bleeding. The answer, of course, is to go back and do a complete transure- thral prostatectomy, or if discouraged at these results, to remove the gland by an open operation. At the completion of the operation, a 24F bag catheter is placed in the bladder.

I have figured out four simple cystoscopic rules for a successful resection, which, if carried out, will result in the complete re- moval of all the obstructing tissue and, therefore, a transurethral prostatectomy. These rules have met with general accept- ance. Following the operation 1000cc of five per cent dextrose is given twice the first day. Sedatives are given as necessary and the legs are flexed frequently to combat phlebo-thrombosis. The catheter is not irri- gated unless it becomes stopped up. Gantri- sin is continued and the patient is allowed up on the second day and in the average case, the catheter is removed on the fourth day and he is discharged on the sixth day. Most patients have no pain or discomfort at any time. When the catheter is removed, he should void a full, free stream the first time and be proud of it. The residual urine will be less than 50 cc's. If there is difficulty, straining, frequency or pain, it means that some tissue has been overlooked and the patient should be returned to surgery and this tissue removed. I do not let a patient leave the hospital until he is satisfied with his ability to urinate, for otherwise, he will be a walking poor advertisement. If he does not void freely from the beginning, he will not do so later on.

As for complications, post operative hemorrhage is disagreeable but not serious if the clots are washed out and bleeding points fulgurated promptly. Do not let a patient get exsanguinated, waiting and hop- ing the bleeding will stop of itself. Post- operative chills and high fever rarely occur since irrigation has been stopped and with the routine use of sulfa drugs and antibio- tics. Following the operation, the urine re- mains cloudy with pus for some time as it takes four to six weeks for the prostatic cavity to heal. Gantrisin or mandelamaine is then given for three rounds on alternate weeks, at the end of which time, the urine is nearly always clear and free of pus. A 24F sound is passed and a possible early stric- ture avoided. The majority of these patients have been cystoscoped several months after operation and the concave cavity left after resection is shrunken down but permanent. There is an unobstructed view of the bladder from the veru, so instead of a prostatic urethra, there is a wide open cavity which is continuous with the bladder.

The control of urination is entirely de- pendent on the external sphincter. By fol- lowing the above brief outline of manage- ment, from May 24, 1949 to June 13, 1951, I operated on 252 consecutive cases, doing 265 resections, without a death. Two were over 90, 28 more than 80 and 42 per cent more than 70. During that time, two supra- pubic and two retropubic operations were done. In 46 per cent of the cases, less than 25 grams of tissue was removed. These are the cases that every one agrees resection is the operation of choice. Yet the four cases operated on three times and all but two of these operated on twice, had a total of less than 25 grams removed. So in my hands there is much less trouble with the larger glands than with the small ones. Up to 50 grams were removed in 49 cases, up to 75 grams in 37 cases, and more than 75 grams in 35 cases. In 14 more than 100 grams were removed, the largest amount being 148 grams. In the large glands, tissue can be removed rapidly, 110 grams having been removed in 40 minutes, and 23 pieces of tissue in 45 seconds. It is the trimming up

and finding of bleeders that takes time. There were 29 cases of carcinoma in this series. Post-operation strictures were seven and cleared up with the passage of sounds. Five cases of epididymitis, and one periurethral abscess occurred. Four patients had post-operative hemorrhage severe enough to return to surgery for fulguration. There were no cases of incontinence, though a few were quick on the trigger for several weeks. There were only two cases of phlebothrombosis and none of pulmonary embolism. Twelve had had previous resection from three to 13 years previously and two were operated on for contracted bladder neck following an open operation.

In conclusion, I wish to emphasize that a resection properly done is a transurethral prostatectomy and the results are excellent and permanent in the great majority of cases. The mortality is definitely less than in the open types of surgery and the sexual powers are not disturbed. It is a difficult, delicate operation and at times quite tedious but it is a great satisfaction to operate with little shock or discomfort on a man of advanced age representing a grave surgical risk and witness an uneventful convalescence and several years of comfortable living afterward.

CLINICAL PATHOLOGIC CONFERENCE

The University of Oklahoma School of Medicine

Presented by the Departments of Pathology and Medicine

HOWARD C. HOPPS, M.D. AND E. E. SHIRCLIFF, M.D.

OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: This interesting diagnostic problem will be discussed by Doctor Shircliff. The information upon which he bases his clinical analysis is exactly similar to that which has been furnished to you in mimeographed form.

PROTOCOL

Patient: J.A.P., 54 year colored male. Died on his tenth hospital day.

Chief Complaints: Progressive abdominal enlargement (four months); mid-abdominal pain (two weeks).

Present Illness: The patient stated that he had been in good health until four months before, at which time he noticed that his trousers began to fit more tightly than formerly. From this time on his abdomen began to protrude more and more and he thought there might be some fluid in it. There was no change in bowel habits. He thought that his urine had become increasingly darker during the past few months. There was no change in amount, nor was there frequency, urgency, etc. He stated that he had never had jaundice nor had he had chills, fever or pleurisy. He denied having received injections of any sort within the past months, nor had he received intravenous transfusions. The patient stated he had lost 10-15 lbs. shortly before admission to the hospital. The attending physician questioned this statement in view of the obvious marked ascites and the fact that the patient did not appear malnourished. The patient stated that he had had hemorrhoids for several years with occasional bleeding. One week before admission to the hospital he passed one or two cups of bright red blood with stool. This was the first and only episode of this type. In the few weeks just before admission the patient stated that he had pain (character and amount not stated) in the midline of his abdomen. There had been some shortness of breath with the present illness but no pedal edema or other signs of congestive failure. The patient denied hemoptysis or hematemesis.

Past History: Essentially negative. The patient had no previous hospitalizations or serious illness; he denied venereal disease. There was no known exposure to toxic substances or occupational hazard (patient worked as a hotel porter for the past 13 years).

Family History: Of 10 brothers and sisters, nine were living. Mother died at 34 of pneumonia; father at 67 of "old age."

Physical Examination: On admission temperature was 98.6°F.; P. 86/min.; R. 20/min.; BP 120/86. The patient appeared acutely and chronically ill with marked abdominal distention and moderate shortness of breath. His head and neck were not remarkable. Pupils were round and equal and

reacted to light and accommodation. Fundi showed increased tortuosity of vessels. There was poor oral hygiene and gums were tender, soft, and bled easily. The skin was stated to be "negative." There was no lymphadenopathy. The chest was symmetrical. There were decreased areas of resonance in both lung bases posteriorly. The heart was not enlarged. Its rhythm was regular and there were no murmurs. There was marked abdominal distention with a readily demonstrable fluid wave. Genitalia were not remarkable. Extremities were "negative." Rectal examination revealed thrombosed external hemorrhoids and marked rectal tenderness. The prostate was enlarged (grade II). There were no abnormal masses palpable. No blood was encountered.

Laboratory Data: Urinalysis revealed sp. gr. 1.021, pH 6.0. There were 8-12 WBC's with small clumps. There were no RBC's, nor was there protein or sugar. A week before (OPD) urinalysis was essentially similar. RBC's were 3.26 and Hb. 10 gm. per cent, WBC's 8,050 with 63 per cent polymorphonuclears (2 stabs), 34 lymphocytes. Bromsulphalein test revealed 46.2 per cent retention at 45 minutes. Cephalin flocculation was 3+ (5 days later 1+). Thymol turbidity 10.43 units (five days later 6.39 units). Gamma globulin 2.7 gm. per cent (five days later 1.1); Van den Bergh—total 0.93; 1′, dir. 0.24 (five days later 2.25 and 0.45 respectively). Total protein 4.2/4.00 (five days later 5.1/3.16). Serologic tests on two occasions were as follows: Mazzini 2+ and 1+; Wassermann neg. and neg. V.D.R.L. wk. pos., and pos.; quan. V.D.R.L. neg. and q.n.s. Ascitic fluid exhibited the following proportion of cells: RBC's 81—lymphocytes 45 and polys 27; protein was one per cent and sp. gr. less than 1.016. The fluid was sterile. Stool examination on the second and third hospital days revealed 4+ and 3+ blood.

X-rays (two days before death) were as follows: *Chest:* Revealed no abnormality of the heart. Both costophrenic angles were clear. There was slight elevation of the right diaphragm. No evidence of pulmonary disease was seen. *Barium enema* revealed no intrinsic pathology of the colon. Several loops of dilated small intestine were seen. *Upper GI series* revealed no definite intrinsic lesions of the esophagus, stomach or duodenum, although suggestive filling defects in the lower third of esophagus strongly suggested varices. "Large epigastric mass irons out the lesser curvature of the stomach and measures approximately 7 x 10 cm. and seems to be continuous with the liver." After three hours there was approximately 80 per cent gastric retention and a small amount of gas was seen in the small bowel. Impression was: "Probable esophageal varices and epigastric mass which is extrinsic to the GI tract and probably involves the middle lobe of the liver."

Clinical Course: On the second hospital day five liters of clear straw-colored ascitic fluid were removed and the patient became much more comfortable. Now, an examination of the abdomen revealed an epigastric mass approximately 12 to 15 cm. in diameter which was quite firm. During the first seven hospital days the patient lost 19 lbs. His condition was stated to be essentially unchanged except for marked abdominal soreness from hiccups. On the tenth hospital day it was stated, for the first time, that the patient was markedly lethargic and having difficulty in breathing—he died on this day. There is no description of respiration, pulse, etc., just before death. The patient was afebrile throughout the hospital course.

CLINICAL DIAGNOSIS

DOCTOR SHIRCLIFF: We must account for the following things in this patient's progressive illness that resulted in death after approximately four months—1) development of ascites without ankle edema or heart failure, 2) epigastric pain of unknown character, 3) a large firm epigastric mass, and 4) gastrointestinal bleeding. The laboratory work indicates that there was non-specific involvement of the liver, but gives little specific information concerning the liver.

The lack of fever, with the laboratory findings, indicates that there was probably no acute infectious process involved. We have here equivocal tests for syphilis, which equivocation is aggravated by the fact that any hepatic disease may produce a falsely positive test for syphilis. The x-rays give us two other things to consider—a large mass, extrinsic to the colon, probably involving the liver and esophageal varices.

The patient's first evidence of illness was the progressive development of ascites without ankle edema. In such development one considers Pick's disease or chronic constrictive pericarditis (assuming that they are not the same disease), tricuspid insufficiency and portal venous obstruction. The first three are easily eliminated because they don't produce a tumor and there was described a definite tumor in the epigastrium. Portal obstruction may be of several origins.

UNIVERSITY OF OKLAHOMA LIBRARIES

It may be a result of portal cirrhosis. Seldom is a tumor of this size produced in portal cirrhosis. Carcinoma of the liver occurs in portal cirrhosis in approximately four per cent of the cases. Portal cirrhosis may exist for years without any signs or symptoms, and portal obstruction with development of ascites is very common in portal cirrhosis. These things fit together fairly well and *cirrhosis of the liver with primary carcinoma* is a very distinct possibility. Two other conditions we can't eliminate but which seem to be unlikely are: *abscess of the liver*, of amoebic origin, and echinococcal cyst of the liver. This latter is rare and on that basis alone is very unlikely. Amoebic abscess seems unlikely too, in the absence of signs of acute inflammation. The tumor which has been described may not be associated with the liver and if not we have been grossly misled.

Turning to still another diagnosis, it is my opinion that the primary cause of death in this patient was *syphilis*. I believe that after the usual latent period there developed gummata and diffuse hepatic interstitial fibrosis with deformity and tumor of the liver, that tumor being felt and described as recorded in the protocol. The rapid downhill course was probably the result of portal obstruction and was probably aggravated by portal thrombosis. Two conditions that we can not rule out are 1) *portal cirrhosis with development of primary malignancy* of the liver and 2) *metastatic tumor in the liver with slowly developing thrombosis of the portal vein.*

ANATOMIC DIAGNOSIS

DR. HOPPS: At autopsy, external examination revealed little except for moderate icterus of sclerae and other mucous membranes. The peritoneal cavity contained only several milliliters of light yellow clear fluid. The liver margin extended two cm. below the costal margin in the right midclavicular line. Its surface was nodular and these nodules were hemispherical and up to one cm. in diameter. The spleen did not extend below the costal margin, but it felt slightly enlarged. Other abdominal viscera were not remarkable. It is interesting that the foramen of Winslow was closed and this illustrates one mechanism which may be responsible for that change, namely, chronic ascites. The diaphragm was at the level of the fourth rib on the left and the level of the fifth rib on the right. Pleural cavities were not remarkable except for filmy fibrous adhesions posteriorly over the lower half of the left lung and, focally, over the base of the right lung. The pericardial cavity was essentially normal. The thoracic viscera were not remarkable except for moderate edema of the lung. There was no induration or other change to suggest an inflammatory or neoplastic process here.

The liver weighed 2100 gm. Extrahepatic bile ducts were examined carefully as was the portal vein and its tributaries. No significant abnormality was apparent. However, when intrahepatic branches of the portal vein were explored within the substance of the liver, the left main branch was found to be partially obstructed by a semi-necrotic mass which appeared to be tumor. The right branch of the portal vein was entirely obstructed by similar tissue. External surfaces of the liver exhibited coarse reddish mottling against a pale tan background and there was diffuse nodularity up to one cm. in diameter. Some of the nodules were soft, others firm. Cut surfaces of the liver presented numerous pale gray nodules measuring approximately five mm. in diameter. As on the capsular surface, some of these were soft and presented an appearance quite different from the usual firm yellowish or tawny nodules characteristic of Laennec's cirrhosis. However, many nodules did present this characteristic firmness and color and, furthermore, there was evidence of perilobular fibrosis—characteristic of cirrhosis. The gallbladder contained approximately 10 cc. of very dark green bile. The gallbladder was not remarkable except for a thin creamy white plaque of rather dense tissue over the medial aspect of the free surface. This was six x one cm. in area and averaged 0.2 cm. in thickness. The pancreas was not remarkable.

Examination of the gastrointestinal tract revealed numerous varicosities in the lower one-third of the esophagus which, at the time of autopsy, were collapsed. No point of hemorrhage was evident. There was marked leukoplakia over the lower third of the esophagus. The stomach contained 300 to 400 cc. of dark reddish brown material, apparently recently exuded blood. The remainder of the stomach and intestinal tract was not remarkable. The kidneys exhibited slight cholemic nephrosis.

Microscopic studies of the liver were most interesting and revealed marked multilobular type of cirrhosis (Laennec's) which was quite active at this stage. However, in most areas there were malignant neoplastic cells arising from hepatic cords invading

and surrounding the non-neoplastic parenchyma and infiltrating veins and lymphatics. The neoplasm appeared to be multicentric in origin. Many neoplastic nodules exhibited central necrosis and in some instances there was necrosis of entire nodules. Non-neoplastic portions of the liver exhibited marked degenerative changes probably secondary to portal venous obstruction. These changes seem sufficient to explain death on the basis of hepatic failure. The plaque-like lesion described in the gallbladder proved to be metastasis from the liver. The spleen exhibited moderate passive congestion, in keeping with the portal hypertension evidenced by esophageal varicosities, ascites and the demonstrated obstruction to portal veins.

The final anatomic diagnosis was:

Laennec's cirrhosis, advanced, active

Hepatic cell carcinoma (multicentric) with extension into portal vein, completely occluding right major division, partially occluding the left major division, and with metastasis to the gallbladder

Icterus, hepatocellular

Esophageal varices, marked, with massive hemorrhage

Ascites, marked (recent paracentesis)

Passive congestion, marked, of spleen, with reticular hyperplasia, moderate

FITE NAMED TO MEDICAL BOARD; JAMES F. McMURRY, M.D., RESIGNS

Governor Johnston Murray has apointed W. P. Fite, M.D. of Muskogee to the Medical Board of Examiners to fill out the unexpired term of James F. McMurry, M.D. of Sentinel.

Doctor McMurry submitted his resignation to Governor Murray as he did not feel that he could continue to give the necessary time to the appointment.

Doctor Fite has previously been a member of the Board of Medical Examiners.

TO DEMO CONVENTION

R. H. Lynch, M.D. of Hollis has been selected as one of the Delegates to the Democratic National Convention from his district.

GUEST AT MEETINGS

Outgoing O.S.M.A. President L. Chester McHenry, M.D., Oklahoma City, was guest at the state conventions of both the Dental and Pharmaceutical Association when the groups held their annual meetings in Oklahoma City this spring.

ENJOY A SCIENTIFIC VACATION AT
THE AIR CONDITIONED SHAMROCK HOTEL, HOUSTON, TEXAS
JULY 21 - 22 - 23 — 1952

Postgraduate Medical Assembly of South Texas

EIGHTEENTH ANNUAL MEETING

Three Separate Sections: Medical, Surgical and Eye, Ear, Nose and Throat 9:00 A.M. to 6:00 P.M. Daily

DAILY LUNCHEON — For All Sections Combined

DISTINGUISHED GUEST SPEAKERS

WALTER C. ALVAREZ, M.D., Professional Lecturer, Univ. of Ill., Chicago; Editor in Chief of Modern Medicine.
JAMES J. CALLAHAN, M.D., Prof. of Orthopedics, University of Loyola, Chicago.
JOHN MAXWELL CHAMBERLAIN, M.D., Associate Surgeon, Columbia Univ., New York City.
ARTHUR C. CURTIS, M.D., Prof. and Chairman, Dept. of Dermatology and Syphilology, University of Michigan.
WALTER A. FANSLER, M.D., Clinical Prof. of Surgery, Univ. of Minnesota.
GEORGE T. HARRELL, M.D., Prof. of Medicine and Head of Dept., Wake Forest College, The Bowman Gray School of Medicine, Winston Salem, N. C.
BERNARD J. HANLEY, M.D., Clinical Prof. of Obstetrics and Gynecology, Univ. of Southern California, Los Angeles.
CHEVALIER L. JACKSON, M.D., Honorary Prof. of Laryngology and Broncho-esophagology, Temple Univ., Philadelphia.
CHARLES A. JANEWAY, M.D., Thomas Rotch Prof. of Pediatrics, Harvard Medical School, Boston.
RUDOLPH H. KAMPMEIER, Associate Professor of Medicine, Vanderbilt University, Nashville, Tennessee.
DANIEL B. KIRBY, M.D., Prof. of Ophthalmology, New York University College of Medicine, New York City.
WILLIAIM B. KOUNTZ, M.D., Prof. of Gerontology, Washington University, St. Louis.
FRANCIS L. LEDERER, M.D., Professor and Head of Dept., of Otolaryngology, Univ. of Illinois, Chicago.
ALBERT N. LEMOINE, JR., M.D., Prof. of Ophthalmology, University of Kansas, Kansas City, Kans.
VICTOR F. MARSHALL, M.D., Associate Prof. of Clinical Surgery (Urology), Cornell University, New York City.
JOHN PARKS, M.D., Professor of Obstetrics and Gynecology, George Washington University, Washington, D. C.
JOHN M. SHELDON, M.D., Associate Prof. of Medicine, University of Michigan; Executive Committee, American Academy of Allergy.
JAMES H. WALL, M.D., Associate Prof., Clinical Psychiatry, Cornell University, New York City.
C. STUART WELCH, M.D., Prof. of Surgery, Tufts Medical College, Boston.
HARRY M. WEBER, M.D., Associate Prof., Radiology Mayo Foundation Graduate School; Chief of Section on Roentgenology, Mayo Clinic.

DANCE .... EMERALD ROOM .... SHAMROCK HOTEL, TUESDAY EVENING, JULY 22

INTERESTING AND INSTRUCTIVE SCIENTIFIC EXHIBITS, TECHNICAL EXHIBITS, MOTION PICTURES

REGISTRATION FEE $20.00 covers all Features, including Luncheons
(Reduced Fee of $10.00 to doctors on Active Duty in the Armed Forces.)

Special Rates are Offered for this Meeting by The Shamrock

FOR FURTHER INFORMATION WRITE THE PROSTGRADUATE MEDICAL ASSEMBLY OF SOUTH TEXAS
229 Medical Arts Building, Houston, Texas

President's Page

As the curtain is rung down on another Annual Meeting of the Oklahoma State Medical Association, the stage is automatically set for another year of work—and there is plenty to do.

I accept my part of the job cheerfully because by predecessors have laid a fine and solid foundation on which to work and have given me most excellent council.

The function of our society has become increasingly complex as we have undertaken more and more activities. For this reason closer cooperation of our members and better coordination of our efforts are required to make the progress we all so earnestly desire.

We have heard charges, from some quarters, that much is wrong with the medical profession. We have winced at undeserved barbs and have blushed in shame when occasionally one of our members has let us down. But for each line on what is wrong, a book could be written on what is right. I am proud of the traditions, the accomplishments and the ideals of the profession which is unequalled in its service to all regardless of circumstances and which asks no favors except to be left alone by meddling politicians.

In a quarter of a century of active participation in the affairs of the Association I have never attended a meeting at any level where the theme was not in the interest of the patient. Our Committee on Public Relations needs to be enlarged. In the matter of public good will and appreciation there is no substitute for the individual physician who tries earnestly to discharge his full responsibility to his patient. To this end I hereby appoint each and every one of you on this committee.

If you have suggestions or criticisms we shall be happy to receive them.

Alfred R Sugg.

President

Clinical Results* with Banthine® Bromide

(Brand of Methantheline Bromide)

22 Published Reports Covering Treatment of 1443 Peptic Ulcer Patients with Banthine

Comprising the reports published in the literature to date which give specific facts and figures of the results of treatment

AUTHORS	No. of Patients	Chronic, Resistant to Other Therapy	TYPES OF ULCERS				RELIEF OF SYMPTOMS (Chiefly Pain)				Surgery or Complications[1]	Side Effects Requiring Discontinuance of Drug[1]	EVIDENCE OF HEALING			
			Duodenal	Jejunal	Stomal	Gastric	Good	Fair	Poor	No Report			Complete	Moderate	None	No Report
Grimson, Lyons, Reeves	100	100	93	7			80	11	4		5		47		19	29
Friedman	15	15	14			1	5		4	6[2]			2			13
Bochgaard, Nielsen, Bang, Gruvland, Tobiasson	26	26	21			5	16	4	6				8	6	12	
McHardy, Browne, Edwards, Marek, Ward	162		162				136	12	11		3	1	14	9	7	139
Segal, Friedman, Watson	34	34	34[3]				14	13			7	2	5		8	14
Brown, Collins	117	99	117				97	7	8		5	8	55	9	8	40
Asher	77		65		7	5	52	9	16			16		9	31	47
Rodriguez de la Vega, Reyes Diaz	5	4	5				4		1					3	2	
Winkelstein	116	116	102	8		6	102		14				53		18	45
Hall, Hornisher, Weeks	18	18	18				11		1	6[2]			18			
Maier, Meili	38	38	24			14[4]	27	7	4[5]				10	2	5	21
Meyer, Jarman	25	18	25				21		4							25
Poth, Fromm	37	37	37				33	3	1				33	3	1	
Plummer, Burke, Williams	41	41	41				36		5				38		3	
McDonough, O'Neil	104	100	104				63	10	31			11	4		11	89
Brodeur	60	60	58		1	1	35	19	6				10	1	49[6]	
Legerton, Teeter, Ruffin	11		11				11									11
Holoubek, Holoubek, Langford	76	69	76				35	27	10		4	10	26		10	36
Ogburn	42		39	2		1	42[7]									42
Shelken	48	48	48				33	10	3		2		33	10	3	
Johnston	145	145	145				143		2			2	143		2	
Rossett, Knox, Stephenson	146		141			5	146					6[10]	53			93
TOTALS	1443	968	1380	17	8	38	1142	132	197	12	26	54	552	52	179	694
PERCENTAGES		67.8	98.6	1.2	0.6	2.6	81.3	9.4	9.3			3.7	70.5	6.6	22.9	

1. Not included in tabulations.
2. Included in "Relief of Symptoms" as "Poor" and in "Evidence of Healing" as "None."
3. Four had no symptoms when Banthine therapy was begun.
4. Of which seven were penetrative lesions and five partially obstructive.
5. No symptoms were present in four.
6. Two with symptoms only; no demonstrable ulcer.
7. Three were psychopathic patients and one had a ventricular ulcer of the lesser curvature.
8. Roentgen findings after treatment period of two weeks; forty-seven had duodenal deformity.
9. All returned to work within a week.
10. In these four, after relief of symptoms, Banthine was discontinued because of urinary retention.

During the past two years, more than 200 references to Banthine therapy in peptic ulcer and other parasympathotonic conditions have appeared in medical literature. Of these reports, 22 have presented specific facts and figures on the results of treatment in a total of 1,443 peptic ulcer patients, 67.8 per cent of whom were reported as chronic or resistant to other therapy. These results are tabulated above and show:

"Good" relief of symptoms was obtained in 81.3 per cent of the 1,405 patients on whom reports were available.

"Complete" evidence of healing was obtained in 70.5 per cent of the 883 patients on whom reports were available.

In all but 9.7 per cent, relief of pain was "good" or "fair." In all but 22.9 per cent, evidence of healing was "complete" or "moderate."

During treatment, 26 patients required surgery or developed complications other than ulcer which required discontinuance of the drug before results could be evaluated.

Of the remaining 1,417 patients, only 3.7 per cent experienced side effects sufficiently annoying to require discontinuance of the drug.

*Volume containing complete references, with abstracts of 39 additional reports, will be furnished on request by

G. D. SEARLE & Co., P. O. Box 5110, Chicago 80, Illinois.

NEW FACULTY APPOINTMENTS AT THE SCHOOL OF MEDICINE

DOCTOR WOLF

Stewart G. Wolf, Jr., M.D. has been appointed by the Regents of The University of Oklahoma as full-time Professor and Head of the Department of Medicine at the School of Medicine. Doctor Wolf comes here from Cornell University Medical College where he was Associate Professor of Medicine. During World War II he served as Captain and Major in the U. S. Army Medical Corps with the Ninth General Hospital in the Southern Pacific.

Doctor Wolfe was born in Baltimore, Maryland, in 1914, attended Phillips Academy, Andover, Yale University, and Johns Hopkins University and Medical School, receiving both his A.B. and M.D. from the latter. He had his internship and medical residencies at the New York Hospital, New York. He has also served as a Research Fellow at Bellevue Hospital, the New York Hospital, and at the Harvard Neurological Unit of Boston City Hospital. Doctor Wolf has membership in many scientific societies and associations, and has been the author or co-author of 79 articles published in scientific journals, has contributed material for five books, and has published four monographs. His research activities have included the fields of gastrointestinal physiology, neurology, cardiovascular diseases and diabetes. In 1943 Doctor Wolf was given the American Gastroenterological Association Award for Distinguished Research in Gastroenterology.

Appointed as Associate Professor of Medicine is Robert M. Bird, M.D., who is coming to assist Doctor Wolf in administering the Department of Medicine. Doctor Bird also comes from the Cornell University Medical College.

Doctor Bird was born in Charlottesville, Virginia, in 1915, attended Episcopal High School, Alexandria, and the University of Virginia and School of Medicine, receiving a B.S. in Medicine in 1937 and an M.D. in 1939. He interned and had a two year medical residency at the New York Hospital. After returning from four years service in the U. S. Army Medical Corps as 1st Lt. to Major with the Ninth General Hospital, he served both the departments of Medicine and Physiology at Cornell University Medical College as Instructor and Assistant Professor.

Doctor Bird is a diplomate of the American Board of Internal Medicine and has membership in other scientific societies and associations. Published articles in various Journals which he has authored or co-authored are primarily in the fields of hematology and fat metabolism.

DOCTOR BIRD

LONDON & LANCASHIRE CANCELS MALPRACTICE POLICY OF O.S.M.A.

Effective April 1, 1952, the London and Lancashire Indemnity Company of Hartford, Conn., cancelled the master policy held with the Association for the writing of malpractice insurance for its members.

Prior to the cancellation of the policy, the Insurance Committee of the Association made every effort to renegotiate the contract but without success.

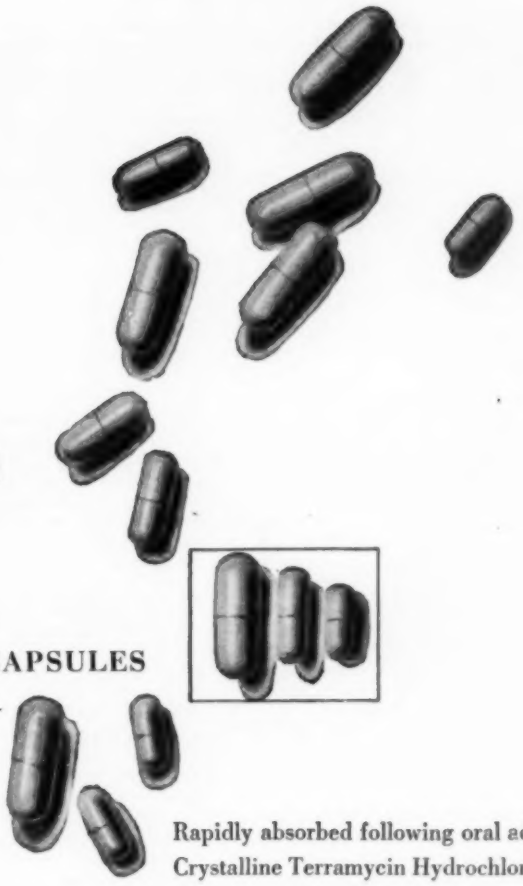
The company gave no specific reasons for the cancellation of the contract, other than the statement that they were withdrawing from this field of insurance.

Physicians whose malpractice insurance was with the London and Lancashire will find it necessary to place this coverage with companies that are now writing it in the State of Oklahoma. Local insurance agencies have been advised of the cancellation of the contract by the London and Lancashire and should be in a position to place this coverage elsewhere.

The Insurance Committee of the Association is attempting to negotiate a new contract with another company and as soon as any negotiations are completed, a special announcement to the membership will be immediately made.

Over 985 members of the Association held contracts with the London and Lancashire.

Terramycin



CAPSULES

Rapidly absorbed following oral administration, Crystalline Terramycin Hydrochloride Capsules elicit prompt therapeutic response in acute and chronic infections involving a wide range of organs, systems and tissues. Its broad spectrum of antimicrobial activity encompasses organisms of the bacterial and rickettsial as well as certain spirochetal, viral and protozoan groups.

Supplied: 250 mg., bottles of 16 and 100;
100 mg., bottles of 25 and 100;
50 mg., bottles of 25 and 100.

Terramycin is also available as:
Elixir, Oral Drops, Intravenous,
Ophthalmic Ointment, Ophthalmic Solution.

ANTIBIOTIC DIVISION Pfizer CHAS. PFIZER & CO., INC., *Brooklyn 6, New York*

UNIVERSITY OF OKLAHOMA LIBRARIES

MESSAGE FRON THE DEAN, SCHOOL OF MEDICINE

MARK R. EVERETT, PH.D.

I am happy to turn this month's space over the Stewart G. Wolf, Jr., M.D., newly appointed Professor and Head of the Department of Medicine. We are fortunate in having such a leader in medical education join our Faculty. I feel that we shall all be stimulated by Doctor Wolf's coming to Oklahoma, and I am sure you will be interested in his forward looking ideas on medical education as expressed in the accompanying article.

THE NEXT STEP IN MEDICAL EDUCATION

STEWART WOLF, M.D.

Before considering the next step in medical education it is fitting to review the important steps in the past which have brought us to our present position, and to assess the need, if any, for change. Prior to 100 years ago a large body of fairly exact data concerning the structure of man's body in its dead state had accumulated together with certain empiricisms useful in dealing with the symptoms of the sick. Students were taught in didactic lectures and they had scarcely any clinical experience during their school year.

Over the past 100 years, however, changes have taken place based on a painstaking collection of data pertaining to the function of various living organs and organ systems in small animals and in man. These newer developments ultimately led to the establishment of bedside teaching with increasing emphasis on laboratory procedures for diagnosis. The limited command which clinical teachers had of the rapidly growing knowledge of many of the sciences basic to medicine necessitated the existence of separate "pre-clinical" departments for the teaching of medical students. Each one, charged with a part of the responsibility for educating the student, became a semi-autonomous organization with jurisdiction over a certain number of hours in the student's day. The head of one department could set up his own curriculum independently of other departments.

More modern developments in medicine are out of keeping with this comparative isolation in teaching. Instead of further separating our categories of knowledge, the march of science has brought about a great deal of overlapping and therefore a need for integration in teaching. Nevertheless, our teaching in most medical schools is still highly departmentalized. At our present stage of development a medical student learns, for example, the structure and function of the heart from two separate professors. In some cases, there is a loose integration of the courses, but no serious attempt to combine the knowledge available on the subject. This deficiency does not stem from divergent attitudes among the members of various departments, because nowadays the biological horizon of "pre-clinical" teachers is broad. For example, the interests of anatomists, as reflected by their publications, lie more with function than structure and hence are chiefly physiological. Pharmacologists are spending less time testing the action of chemical agents on isolated tissues. The tests for pharmacologic action and toxicity are being left largely to the drug houses, while the medical school department of pharmacology are publishing papers about tissue metabolism. So are the biochemists. Since the department members themselves are showing such breadth of biologic horizon, a strictly departmentalized approach to teaching seems all the more out of place.

Recent developments have also made the "great divide" between pre-clinical and clinical teaching less and less meaningful. Judging again by publications and also by observing teaching in the departments, it is clear that in many schools physiologists are making fewer and fewer animal preparations and instead are inclined to observe experiements of nature in the human preparation. By the same token clinicians are becoming more "physiologically minded." They are less and less concerned with syndromes and more and more with mechanisms. Gynecologists 50 years ago published chiefly concerning new operative techniques and maneuvers. They are now studying cytology, endocrinology and metabolism.

Psychiatrists, too, are applying their concepts to the study of the functioning human organisms rather than restricting them to his psychological apparatus. Thus, it would appear that the departmentalized structure of the medical student's curriculum is more a matter of tradition than conviction. Why does it persist?

In any medical discipline or department one finds two general lines of emphasis: (1) The development of techniques and "tools of the trade" and the refinement of methods for the execution of a special task; and (2) The integration of the work of that discipline with others in the medical field, that is, the application of the data from specialized studies to the general problem of health and disease. Since each department is assigned a limited number of hours it is probably to be expected in our competitive society that the former should be emphasized at the expense of the latter.

The result of all this has been that the student's time and energies are consumed by demands of the various departments to memorize numerous easily available data so that there is little time for thought and inquiry into what medicine is all about. The branches of the brachial plexus and the distribution of cutaneous nerves are memorized and rememorized two or three times during medical school. Later they are forgotten. Important matters of cellular metabolism, on the other hand, are offered to the student among a welter of biochemical data in a couple of lectures in the first year before he can grasp what relevance a cell has to disease or to the functioning human organism. More time is spent in medical school on the techniques of identification of parasitic worms in feces, a job which 90 per cent of doctors relegate to a technician or diagnostic laboratory, than on the technique of inquiry into the early development of family relationships of a patient with peptic ulcer, a job which only the physician can do and which will confont him almost daily in practice. We are asked as physicians to view the whole patient and yet our medical education at present does not provide for the development and training of a whole doctor with sufficient depth of perspective to do the job.

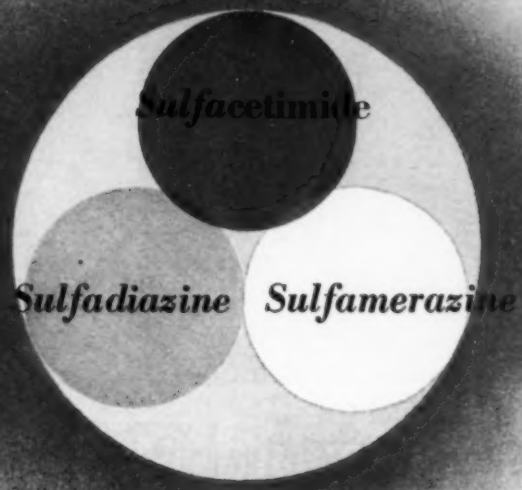
The University of Oklahoma School of Medicine has been trying to meet this challenge, especially over the past four years under the able and imaginative leadership of Dr. Mark R. Everett and amid a vast program of expansion.

Already departmental barriers are being broken down toward a better perspective for the student. Nowadays, two or three departments may participate in a single teaching session. There are conferences in which the basic science teachers are brought together and in ward rounds their knowledge is brought to bear on live clinical problems. Diseases are being regarded no longer as organ disturbances, but as integrated patterns of defense on the part of the whole human organism against a threat to his integrity or welfare. The focus of teaching is now on the sick person rather than just his disease.

With these and further modifications of concept and method it is hoped that we at Oklahoma may be among the first to take the next step in medical education.

Sulfonamide Mixture Therapy At Its Best

TRICOMBISUL



For greater clinical safety plus the advantages of more rapid absorption, better tissue distribution and faster therapeutic effect.

TRICOMBISUL Tablets, 0.5 Gm. total sulfonamides, each tablet containing 0.166 Gm. of sulfa*cetimide,* sulfadiazine and sulfamerazine.

TRICOMBISUL Liquid, 0.5 Gm. total sulfonamides (0.166 Gm. each of sulfa*cetimide* [solubilized], sulfadiazine and sulfamerazine) per teaspoonful (4 cc.).

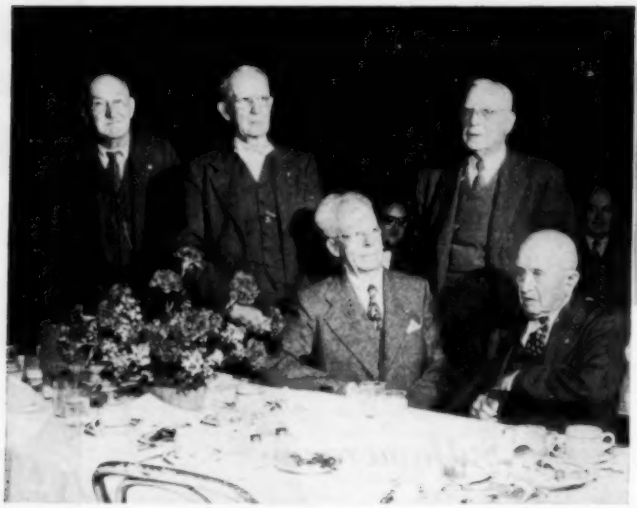
*T.M.

Schering **CORPORATION · BLOOMFIELD, NEW JERSEY**

TRICOMBISUL

SCHERING

FIFTY YEAR PINS PRESENTED TO TWELVE PHYSICIANS



Left: George LaMotte, M.D.; John M. Alford, M.D.; Horace Reed, M.D.; Lewis J. Moorman, M.D. and A. J. Coley, M.D. Top: McLain Rogers, M.D. pins a 50 Year Pin on A. H. Bungardt, M.D.

Seven Oklahoma City physicians, and one each from Castle, Edmond, Okmulgee, and Cordell and one now residing in California are now wearing the gold lapel pin signifying 50 years of service as a member of the Oklahoma medical profession.

In recent ceremonies sponsored by their county medical societies, the following were presented the pins denoting 50 years in the practice of medicine: R. M. Howard, M.D., Horace Reed, M.D., J. M. Alford, M.D., George A. Lamotte, M.D., A. J. Coley, M.D., Lewis J. Moorman, M.D., Everett S. Lain, M.D., all of Oklahoma City; J. W. Shelton, M.D., formerly of Oklahoma City and now Los Angeles, Calif.; A. H. Bungardt, M.D., Cordell; A. C. Lucas, M.D., Castle; S. B. Leslie, Sr., M.D., Okmulgee; and James I. Lyon, M.D., Edmond.

Doctor Bungardt's pin was presented to him when he was guest of honor at a Chamber of Commerce Banquet in Cordell. Presentation was made by McLain Rogers, M.D., pioneer Clinton physician and long time friend of Doctor Bungardt. Doctor Bungardt was graduated in 1902 from the University of Missouri School of Medicine and has been practicing medicine in Cordell since he arrived there December 11, 1902, and purchased the practice from a former physician there for a $100 note.

Doctors Howard, Reed, Alford, LaMotte, Coley, Moorman, Lain and Lyon's pins were presented at the monthly buffet supper of the Oklahoma County Medical Society. Doctor Shelton, who moved to Los Angeles in 1948 after 50 years' practice in Oklahoma City, received the pin in absentia.

Of the Oklahoma County physicians, Doctor Lain recently received a gold medal and diploma by the American Cancer Society for his work in the field of research; Doctor Moorman, former Dean of the Medical School, is widely known in the field of tuberculosis and as the author of *Tuberculosis and Genius* and *Pioneer Doctor;* Doctor Coley, who is 94, remembers fighting epidemics with his intuition in place of modern public health methods; Doctor Howard, now retired, taught surgery at the University of Oklahoma and was once president of the American Goiter Association; Doctor Reed was associate on the teaching staff at Epworth University Medical School which later merged with the University of Oklahoma School of Medicine; Doctor Alford, another 50 Year Pin wearer who has not retired, says, "I want to take out someone's appendix today and go to heaven tomorrow"; Doctor Lamotte is professor emeritus of medicine at the School of Medicine; Doctor Lyon, who is 82 years old and practiced medicine almost 60 years before he retired, was formerly physician and health director for the Kickapoo and Pottamatomie Indians at McCloud.

O.S.M.A. President L. Chester McHenry, M.D. presented 50 Year pins to A. C. Lucas, M.D., Castle, and S. B. Leslie, Sr., M.D., Okmulgee, at a meeting of the Okmulgee and Okfuskee County Medical Societies.

OKLAHOMA STUDENT A.M.A. REPRESENTED AT ANNUAL MEETING

For the first time in the history of the Oklahoma State Medical Association, representatives of the Student body at the University of Oklahoma School of Medicine participated in the deliberations of the House of Delegates.

William B. Stover and William F. Denny were the first delegates from the Student A.M.A. chapter to serve in this capacity. Local chapters have been established in practically all the approved schols of medicine in order to acquaint the students with the purposes of the county, state and American Medical Association.

INDIAN HOSPITAL MAY BE OPENED TO NON-INDIANS

A recent law enacted by Congress gives the Secretary of Interior the right to open Indian Department Hospitals for the care of non-Indians when the area served by the Indian Hospital may not otherwise have adequate hospital facilities.

The hospital rate to be charged by Indian hospitals is to be the average cost per patient day for the respective Indian hospital.

No effective date for the opening of Indian hospitals has been established and will depend upon an individual survey of each area served by an Indian hospital.

Scene from "Oliver Twist"

CHARLES DICKENS
1812-1870

Psychoneurotic Men of Genius

Charles Dickens, the renowned British novelist, was subject to cyclic moods of pronounced depression characterized by intense nervous irritability and by the shedding of tears all day long. He was exceedingly sensitive to his own experiences as well as to the suffering of others.

In the great majority of psychoneurotics, there is no serious mental illness, but merely an emotional imbalance which often can be greatly improved by proper psychotherapeutic and sedative management. In the treatment of psychoneurosis, particularly agitated, depressed and anxiety states, Mebaral is preferred by many because it combines a high degree of sedative effectiveness—producing emotional stability—with a relative freedom from side effects such as languor and drowsiness. Patients usually become calmer, more cheerful and better adjusted to their surroundings without clouding of mental faculties.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Average sedative dose:
Adults, 32 mg. to 0.1 Gm. (½ to 1½ grains) three or four times daily;
children, 16 to 32 mg. (¼ to ½ grain) three or four times daily.

Supplied in tablets of 32 mg., 0.1 Gm. and 0.2 Gm.

Mebaral®

tasteless daytime sedative

EFFECTIVE ANTIEPILEPTIC

Winthrop-Stearns INC. New York 18, N. Y. • Windsor, Ont.

Mebaral, trademark reg. U. S. & Canada, brand of mephobarbital

UNIVERSITY OF OKLAHOMA LIBRARIES

NEW CLINIC BUILT IN ADA

Pictured above is the new Gill-McBride Clinic in Ada. Physicians associated in the clinic are William T. Gill, M.D., Ollie McBride, M.D., Carl D. Osborn, M.D. and Stearley P. Harrison, M.D. The clinic, which contains 20 rooms with 4,300 square feet of floor space, also has a parking area for 40 cars. It is conveniently located cross the street from Valley View Hospital.

ELECTROCARDIOGRAPHY COURSE IS WELL ATTENDED

Two physicians from Canada, and 12 doctors from surrounding states were among those attending the Electrocardiography Course held at the School of Medicine the week of March 3-8, 1952. This postgradute course presented a review of the fundamentals of electrocardiography and resume of the newer applications to this subject including spatial vectors.

The couse was conducted by Robert Bayley, M.D., Ernest Reynolds, M.D., and George Winn, M.D., faculty of the School of Medicine.

The following physicians attended the course:
Alfred T. Baker, M.D., Durant, Oklahoma
H. Richard Bath, M.D., Wilmington, Ohio
R. E. Beamish, M.D., Winnipeg, Manitoba, Canada
R. M. Bellamy, M.D., Pampa, Texas
O. T. Davis, M.D., Owensboro, Kentucky
E. Grey Diamond, M.D., Kansas City, Kansas
Leonard J. Ellis, M.D., Oklahoma City, Oklahoma
R. W. Goen, M.D., Tulsa, Oklahoma
John E. Gruetter, Jr., M.D., Little Rock, Arkansas
A. B. Houston, M.D., Winnipeg, Manitoba, Canada
J. Allen Howell, M.D., Wellington, Kansas
William E. Hubbard, M.D., Oklahoma City, Oklahoma
T. H. Jones, M.D., Waldo, Arkansas
R. R. Kinsinger, M.D., Blackwell, Oklahoma
W. W. Lippert, M.D., Wilmington, Ohio
Vincent Mazzarella, M.D., Hominy, Oklahoma
Dalton B. McInnis, M.D., Oklahoma City, Oklahoma
E. C. Mohler, M.D., Ponca City, Oklahoma
Kenneth S. Lane, M.D., Vinita, Oklahoma
C. A. Laubach, Jr., M.D., Danville, Pennsylvania
J. B. Morey, M.D., Ada, Oklahoma
H. E. Nicholson, M.D., Wheeler, Texas
Orville M. Rippy, M.D., Stillwater, Oklahoma
James R. Ricks, M.D., Oklahoma City, Oklahoma
C. J. Roberts, M.D., Enid, Oklahoma
Herman W. Roth, M.D., Monte Vista, Colorado
S. C. Shepard, M.D., Tulsa, Oklahoma
Harry D. Silsby, M.D., Springfield, Missouri
Vincel Sundgren, M.D., Tulsa, Oklahoma
Dean C. Walker, M.D., Tulsa, Oklahoma
LeRoy A. Wolever, M.D., Midwest City, Oklahoma
Harry C. Wolohon, M.D., Oklahoma City, Oklahoma
J. F. York, M.D., Madill, Oklahoma

HAVE YOU HEARD?

L. B. Word, M.D., Bartlesville, recently spoke on socialized medicine at a meeting of the Washington County Bar Association.

Charles E. Green, M.D., Lawton, discussed the need for a Comanche County Council for Retarded Children at the organizational meeting of the group.

Floyd E. Warterfield, M.D., 82, pioneer Muskogee physician, has been awarded a 50-Year Masonic pin and certificate.

Ray Lindsey, M.D., Pauls Valley, is building a new 30x40 foot wing on his hospital.

F. M. Adams, M.D., superintendent of Eastern Oklahoma Hospital, was principal speaker at a meeting of the Vinita Chamber of Commerce.

E. T. Cook, Jr., M.D., Anadarko, reported on phases of preventive medicine at a Kiwanis club meeting in that city.

Eugene A. Hale, M.D., 1950 graduate of the Univertsity of Oklahoma, is the new full time physician for the Oklahoma State Penitentiary in McAlester.

Cody Ray, M.D., Pawhuska, was guest speaker at the District 13, Oklahoma State Nurses Association.

R. G. Obermiller, M.D., Woodward, recently took a postgraduate course in New Orleans.

Oscar R. White, M.D., Oklahoma City, has been elected president of the University of Oklahoma Board of Regents.

Mark E. Johnson, M.D., Norman, who has been serving with the 45th Division, has been promoted to major.

Malcolm Phelps, M.D., El Reno, has been named to the Board of Directors of the American Academy of General Practice.

J. B. Clark, M.D., Coalgate, has been elected chairman of the council of the new Mary Hurley Hospital of Coalgate.

William P. Longmire, Jr., M.D., son of the late W. P. Longmire, M.D. of Sapulpa, is spending four months in Germany where he will teach at the University of Berlin and do some surgery.

Gordon Livingston, M.D., Cordell, is president of the Kiwanis Club of that city.

J. Raymond Hinshaw, M.D., son of J. R. Hinshaw, M.D., Norman, and surgeon at Strong Memorial Hospital, Rochester, recently lectured at Cornell Medical College, giving some of his findings in his research work as atomic coordinator for the navy.

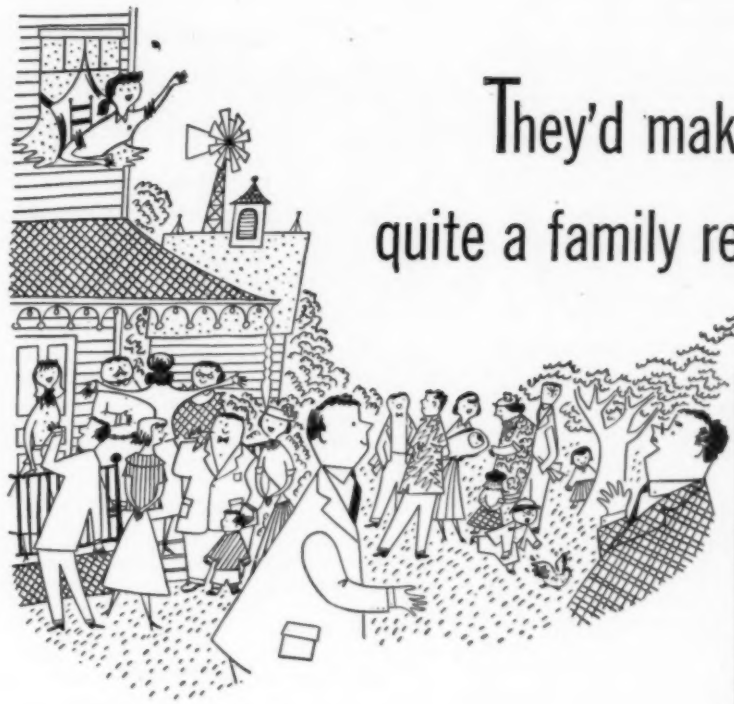
R. H. Mayes, M.D., Anadarko, has been appointed county superintendent of health for Stephens and Caddo counties.

James F. Hohl, M.D., Major (MC) has been awarded the Bronze Star Medal for distinguished service in Korea during the period March 19, to October 6, 1951. Major Hohl served as company commander and regimental surgeon during this phase of operations.

Five Oklahoma Physicians recently participated in postgraduate courses at the Cook County Graduate School of Medicine in Chicago. They are: Fred T. Perry, M.D., Watonga; Glen W. McDonald, M.D., Pawhuska; Eugene H. Arrendell, M.D., Ponca City; Joe L. Duer, M.D., Woodward; and Richard G. Stoll, M.D., Chickasha.
ties.

William Weaver, M.D., Muskogee, presided at one of the sessions when the District No. 3 Nurses Association held a two day institute in Muskogee.

R. R. Hannas, Jr., M.D. will join the McMurry-Stowers Clinic and Hospital in Sentinel July 1 when he finishes his year's surgical residency at the University of Kansas.



They'd make quite a family reunion...

...the 44 patients who represent each of the many conditions for which short-acting NEMBUTAL is effective.

EVEN IF YOU'VE TRIED short-acting NEMBUTAL in no more than a few of its 44 uses, the advantages would still be apparent.

You would already know, for example, how adjusted doses of short-acting NEMBUTAL can achieve any desired degree of cerebral depression, from mild sedation to deep hypnosis.

You would be familiar with the rapid onset, the brief duration, the rare incidence of cumulative effect and "hangover".

And, more important, you would know that short-acting NEMBUTAL's smaller dosage—only about *half* that required by many other barbiturates—results in less drug to be inactivated, marked clinical safety, definite economy to the patient.

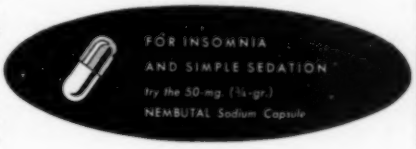
For further information, why not write for your copy of the new booklet, "*44 Clinical Uses for* NEMBUTAL". Just address a card to Abbott Laboratories, North Chicago, Illinois.

Abbott

In equal oral doses, no other barbiturate combines QUICKER, BRIEFER, MORE PROFOUND EFFECT *than...*

Nembutal®

(PENTOBARBITAL, ABBOTT)



44 OF NEMBUTAL'S CLINICAL USES

SEDATIVE

Cardiovascular
Hypertension
Coronary disease
Angina
Decompensation
Peripheral vascular disease

Endocrine Disturbances
Hyperthyroidism
Menopause

Nausea and Vomiting
Functional or organic disease (acute gastrointestinal and emotional)
X-ray sickness
Pregnancy
Motion sickness

Gastrointestinal Disorders
Cardiospasm
Pylorospasm
Spasm of biliary tract
Spasm of colon
Peptic ulcer
Colitis
Biliary dyskinesia

Allergic Disorders
Irritability
To combat stimulation of ephedrine alone, etc.

Irritability Associated With Infections

Restlessness and Irritability With Pain

Central Nervous System
Paralysis agitans
Chorea
Hysteria
Delirium tremens
Mania

Anticonvulsant
Traumatic
Tetanus
Strychnine
Eclampsia
Status epilepticus
Anesthesia

HYPNOTIC
Induction of Sleep

OBSTETRICAL
Nausea and Vomiting
Eclampsia
Amnesia

SURGICAL
Preoperative Sedation
Basal Anesthesia
Postoperative Sedation

PEDIATRIC Sedation for:
Special examinations
Blood transfusions
Administration of parenteral fluids
Electroencephalography
Minor surgery
Preoperative Sedation

UNIVERSITY OF OKLAHOMA LIBRARIES

OBITUARIES

J. W. CRAIG, M.D.
1871-1952

J. W. Craig, M.D., a practicing physician in northeastern Oklahoma for more than 60 years, died March 14 at his home in Miami after an illness of five weeks.

Dr. Craig began his practice at his native Shelby, Mo., in 1891. In 1902 he moved to Vinita where he lived for more than 20 years before coming to Miami.

Survivors include his widow, three daughters and a brother.

E. E. NORVELL, M.D.
1872-1952

E. E. Norvell, M.D., Oklahoma City, died April 21 in an Oklahoma City hospital.

Born in Arkansas, he was a graduate of Vanderbilt University Medical School. Until his retirement last year, he had practiced medicine in Oklahoma City 21 years. Prior to moving to Oklahoma City, he had practiced in Shawnee and Wynnewood. He was a member of the Baptist church, Odd Fellows lodge and was a 32nd degree Mason.

ROBERT KEYES, M.D.
1877-1952

Robert Keyes, M.D., Ada, died February 26 in an Ada hospital.

Doctor Keyes, who retired 10 years ago because of poor eyesight, was born at LaFayette, Ga., and came to Indian Territory as a young physician practicing in Seminole and Okfuskee Counties.

He was a member of the Methodist church, a 32nd degree Mason and was active in civic affairs.

Survivors include the widow, two sons, one sister, one niece and one nephew.

DAVID W. GILLICK, M.D.
1895-1952

David W. Gillick, M.D., chief medical director of the Talihina Medical Center, died April 30.

Doctor Gillick was born in St. Louis, Mo., and received his M.D. degree in 1919. He had served since 1921 in various Indian hospitals in New Mexico, Kansas, Oklahoma, Mississippi, North Carolina and Florida. He was active in the Knights of Columbus and the Talihina Lions club.

Survivors include his widow, one son and one daughter.

ATTEND A.C.P.

Nine Oklahoma City physicians, six from Tulsa and one each from Ada and Kingfisher attended the American College of Physicians in Cleveland, Ohio, April 21-25, 1952.

Those attending were: from Oklahoma City—Turner Bynum, Robert Howard Furman, Philip Marsden McNeill, Henry H. Turner, James R. Colvert, Wann Langston, Robert C. Lawson, W. T. McCollum and Henry Louis Schmidt, Jr.,; from Tulsa—A. A. Hood, Homer A. Ruprecht, H. E. Ryder, Marcella R. Steel, Paul Theodore Strong, Albert Wicken Wallace; and J. B. Morey, Ada; and John Robert Taylor, Kingfisher.

MEDICAL SOCIETIES AROUND THE STATE

Cleveland County

Executive Secretary Dick Graham was guest speaker at a recent meeting of the Cleveland County Medical Society. A medical motion picture was also shown at the meeting.

Garfield-Kingfisher

"Recent Advances in Treatment of Cancer" was J. Samuel Binkley's, M.D. topic when he addressed a recent meeting of the Garfield-Kingfisher County Medical Society. Doctor Binkley is from Oklahoma City.

Woods-Alfalfa

Two Wichita physicians, Harry O. Anderson, M.D. and John W. Warren, M.D. were guest speakers at a meeting of the Woods-Alfalfa County Medical Society. Doctor Anderson spoke on "Painful Feet" and Doctor Warren's topic was "Newer Treatment for Kidney Stones."

Atoka-Bryan-Coal

Speaking on the activities of the State Association and the A.M.A., L. Chester McHenry, M.D., 1951-52 President, spoke to the members and Auxiliary of the Atoka-Bryan-Coal County Medical Society at a banquet in Durant recently.

Northwestern

Members of the Northwestern Counties Medical Society met at the Williams Clinic in Woodward for a recent meeting and postgraduate lectures on "Reviews of General Medicine."

Kiowa-Washita

Members of the Kiowa-Washita Counties Medical Society and Auxiliary met in Mt. View for a dinner meeting recently. Following the dinner, a film from the American Academy of General Practice meeting was shown to the Society.

A.M.A. IS JUNE 9-13

When the 101st annual meeting of the American Medical Association opens in Chicago June 9-13, doors will be opened to the public for the first time through the medium of television.

Two half-hour, coast-to-coast telecasts of the convention are planned. As the nation's top medical authorities report on the very latest developments in the field of science and medicine to approximately 14,000 colleagues attending the meeting, mobile television cameras will transmit the news to the rest of the nation.

The programs will be carried over the N.B.C. television network at 9:30 p.m. (E.D.S.T.) Tuesday, June 10, and at another date to be announced later. They will be sponsored by Smith, Kline and French Laboratories, a Philadelphia pharmaceutical firm, in cooperation with the A.M.A.

From among all antibiotics, Orthopedic Surgeons often choose

New aureomycin minimal dosage for adults—four 250 mg. capsules daily, with milk.

AUREOMYCIN

Hydrochloride Crystalline

because

Aureomycin, following oral administration, diffuses rapidly into the skeletal and structural tissues of the body.

Aureomycin exhibits little tendency to favor the development of resistant bacterial strains.

Aureomycin in daily repeated small dosage gives satisfactory serum levels, and may be continued over a long period.

Aureomycin has been reported to be clinically effective against susceptible organisms in the following conditions frequently seen by the orthopedic surgeon:
Suppurative Arthritis • Osteomyelitis
Infected Compound Fractures • Osteitis
Brucella Arthritis • Periostitis

Throughout the world, as in the United States, aureomycin is recognized as a broad-spectrum antibiotic of established effectiveness.

Capsules: 50 mg.—Bottles of 25 and 100; 250 mg.—Bottles of 16 and 100. *Ophthalmic:* Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY
30 Rockefeller Plaza, New York 20, N. Y.

The Reading Room, Folger-Shakespeare Library, Washington, D. C.

CURRENT ACTIVITIES AT THE OKLAHOMA MEDICAL RESEARCH FOUNDATION

EDWARD C. REIFENSTEIN, JR., M.D.
DIRECTOR

This is the seventh in a series of monthly articles concerning the activities of the Oklahoma Medical Research Foundation. In this article will be discussed the activities in the field of clinical research in Endocrinology and Metabolism now under way at the Oklahoma Medical Research Institute and Hospital. This program is under the direction of Dr. Edward C. Reifenstein, Jr., Head of the Section of Endocrinology and Metabolism and Dr. R. Palmer Howard, a member of the Section of Endocrinology and Metabolism.

In addition to the funds that have been supplied by the Oklahoma Medical Research Foundation, grants made by several other organizations are being utilized in this program. These include a grant-in-aid from the National Institute of Arthritis and Metabolic Diseases, the Upjohn Company, the Ciba Company, Ayerst, McKenna and Harrison, Limited, and Chemical Specialties Company, Incorporated.

One of the chief interests of the section is in disturbances of calcium metabolism and metabolic bone disorders. The initial problem to be investigated will involve a study of patients with atrophy (osteoporosis) of bone from disuse. In the normal individual, bone is in a state of dynamic equilibrium, with bone resorption and bone formation going on simultaneously in different parts of the bone. Physical activity and weight-bearing provide the physiologic stimuli for bone formation in the normal individual. When a person is immobilized with illness, however, bone formation is reduced, and since bone resorption continues, the bones become thin or atrophic; the bone disease that is thus developed is called osteoporosis of disuse.

The investigations planned at the Oklahoma Medical Research Institute and Hospital in relation to osteoporosis of disuse have to do with determining whether or not patients with this disorder respond favorably to therapy with estrogens, androgens and similar compounds. In previous work done by the writer with Dr. Fuller Albright of Boston, Mass., it has been demonstrated that these compounds have a beneficial effect on the osteoporosis found in post-menopausal women and in senile men and women.

In order to study the problem, the response of patients with osteoporosis of disuse to steroids will be measured by a number of simultaneous observations including: (1) the composition of bone specimens taken by biopsy, (2) the density of bone in roentgenograms, (3) the localization of radioactive isotopes in bone, (4) the mineral and nitrogen balances, and (5) the clinical status. As the study progresses it will be possible to determine whether or not the response of patients with atrophy of disuse to the steroids is similar, quantitatively and qualitatively, to that of patients with post-menopausal and senile osteoporosis who are known to respond favorably to these materials. Finally, it is hoped that this study will lead to knowledge as to whether or not the administration of such steroids will have a preventive as well as a therapeutic role in relation to the osteoporosis of disuse.

Balance studies will be performed in individuals who have been immobilized by orthopedic or surgical procedures for a considerable period of time, or until there is gross x-ray evidence of osteoporosis, and who will still require further immobilization for the period of the study. Such individuals will be investigated by the technics outlined, for several metabolic periods before and for several after, the administration of the steroids. Such studies will provide clues as to the therapeutic effectiveness of these agents.

In order to determine whether or not the steroids have a preventive role, studies will be made in previously healthy adult individuals who are required for some medical or surgical reason to undergo an operative procedure which will be followed by prolonged immobilization. These patients will be given steroid therapy either before or immediately after operation and will be compared with suitable control studies, so that it will be possible to determine whether or not there has been any preventive effect of the therapy on the development of atrophy of disuse.

The patients will be studied in the Oklahoma Medical Research Hospital and all of the biological specimens will be analyzed in the Central Laboratory of the Oklahoma Medical Research Institute and in the individual laboratories of the collaborating investigators. The patients will be placed on constant diets, the composition of which will be determined. The urine and feces will be collected, and balances of nitrogen, calcium, phosphorus and other minerals will be determined according to standard technics. Excretions of such substances as creatine, creatinine, uric acid, amino acids, glucose, steroids, and gonadotropins will be determined. The serum levels of protein fractions, glucose, alkaline phosphatase, and chemical elements, such as phosphorus, calcium, and other minerals, will be followed. Hematological studies will include determinations of the hemoglobin concentration and the numbers of formed blood elements.

Bone tissue from a site involved by the atrophy of disuse will be obtained before, during, and after various therapeutic procedures. The specimens, when removed, will be studied by roentgenographic procedures, by histochemical methods, by histological technics, and by biochemical analyses. Roentgenograms of the vertebral column, pelvis, lower extremities and other involved bones will be taken at frequent intervals with attention to standardization of posturing, filming, and developing procedures, in order to minimize the errors in interpretation due to variations in these technics. It is planned to use a specifically-designed and constructed photoelectric microdensitometer for making objective estimations of mineral density in bones from the roentgenograms. Other investigations of the mineral balances will be undertaken by the utilization of isotopes, such as phosphorus^{32} or strontium^{89}. These studies will be carried out in conjunction with the Coordinator of Isotope Studies for the Oklahoma Medical Research Institute and Hospital, Dr. Cleve Beller. Tracer amounts of the isotopes will be administered to certain individuals at appropriate times prior to the biopsy of bones, in the periods before, during and after the administration of the various steroids. The amount excreted in the urine and feces will be determined; the amount present in the bone specimens will be measured. In addition, an attempt will be made to determine the exact cellular localization of the isotope in bone tissue before and during therapy by radioautography.

The data from such studies will be interpreted in several ways: each patient will serve as his own control;

then as the data accumulate, the patient on a specific therapy will be compared with another on the same therapy; later on, he will be compared with patients on different therapies. Finally, the response of patients with osteoporosis of disuse will be compared with that of patients with post-menopausal and senile osteoporosis as reported in the literature and as observed in the previous studies by Doctor Reifenstein, and also in investigations done independently by Doctor Howard.

It should be pointed out that bed confinement has been curtailed in recent years in many forms of illness. However, in certain conditions, such as fractures of the lower extremities, essential surgical procedures, and other severe medical illnesses, immobilization cannot be avoided, and hence osteoporosis of disuse occurs. Physiotherapy has been the only treatment employed. Steroid therapy has not been used in this form of osteoporosis except in very preliminary studies involving a very small number of patients. These preliminary studies are not adequate to form a basis upon which to recommend further therapy. It is of both scientific and practical clinical interest to ascertain whether or not the condition of osteoporosis from disuse may be treated and/or prevented by steroid hormones. The therapeutic value of such therapy has already been demonstrated in post-menopausal osteoporosis by Albright and his collaborators.

Applications have been made to several organizations for support of further work on calcium metabolism and particularly for studying in more detail the action of parathyroid hormone on bone. This latter problem is one of considerable interest. There is very good evidence that the patients can have large excesses of parathyroid hormone arising from adenomas of the parathyroid glands without having any involvement in bone that is demonstrable by the methods now available by roentgenographic study or bone biopsy. It is known that parathyroid hormone alters the excretion of phosphorus into the urine and as a result undersaturates the body fluids in terms of the calcium × phosphorus product. This undersaturation of the body fluids frequently is met by an increased intake of calcium, and then it is unnecessary to withdraw any calcium from the bone. However, there is evidence from animal experiments that parathyroid hormone under certain circumstances does have a definite, direct action on bone. The conditions under which these two different actions occur are not well defined and it is proposed to find out by a series of experiments in animals and man under exactly what conditions parathyroid hormone will have its effect only on the excretion of phosphorus in the urine, and under what conditions it will have an action on resorption of bone.

A number of studies dealing with endocrinology are in progress also at the Oklahoma Medical Research Institute and Hospital. In these studies, Doctor Reifenstein and Doctor Howard are collaborating with Dr. Henry H. Turner of Oklahoma City, who is Chief of the Endocrine Clinic at the University of Oklahoma School of Medicine, University Hospital. This clinic is now being expanded to include a large number of patients with a multiplicity of endocrine disturbances. Materials for diagnosis and treatment of certain of these endocrine disturbances have been made available to the investigators, for use in the clinic, by several of the pharmaceutical companies.

One of the studies of particular interest which is being supported by a pharmaceutical company is that of the determination of the relative effectiveness of certain forms of androgenic preparations which are said to have prolonged action following a single injection. Comparison of the effect of the usual preparations with the new long-acting ones will be made on the basis of the appearance of steroid metabolites in the urine and of the alterations in the anabolism of protoplasm in balance studies.

Another study of considerable interest is an effort to evaluate the effectiveness of a series of new estrogenic compounds. Alterations in gonadotropin excretion and in the nature of vaginal smears are being utilized as end-points and in evaluating these compounds. Another long-range study is under way involving the effectiveness of various steroid compounds in mycological infections in both *in vivo* and *in vitro* studies in animals, and also in clinical studies of patients with such infections. The use of certain steroid preparations in psychiatric disorders is also being investigated. The current investigations also include two other problems: precocious puberty, and the status of the testes in patients with endocrine disorders and in persons with chronic non-endocrine diseases associated with debility.

In addition to the work described above, which is in the field of clinical investigation of the problems of endocrinology and metabolism, animal and chemical studies in the same field are also under way, directed by Dr. Charles D. Kochakian of the Oklahoma Medical Research Institute. Doctor Kochakian made the initial observations on the anabolic effect of androgenic substances such as testosterone. He has been engaged for a number of years in studying the factors involved in this anabolism, and has made many contributions to our knowledge concerning the intermediary metabolism of testosterone. He has also studied the effect of steroids upon the size of the kidney and upon the size of the muscle in several species of animals. He has been studying the effect of various steroids, growth hormone, thyroid, and insulin upon a number of enzyme systems in the tissues of animals. He has also studied the action of parathyroid

(Continued on Page 237)

MID-WEST SURGICAL SUPPLY CO., INC.

216 S. Market Phone 3-3562 Wichita, Kansas

SALES AND SERVICE

FRED R. COZART
R.F.D. No. 3
Afton, Oklahoma
Phone 807F11

Ed LaFOLLETTE
1139 N.W. 24th
Oklahoma City, Oklahoma
Phone 5-5356

N. W. COZART
2300 McCracken
Midwest City, Oklahoma
Phone 72-5362

"Soliciting The Medical Profession Exclusively"

BOOK REVIEWS

HANDBOOK OF NUTRITION. A symposium prepared under the auspices of the Council on Foods and Nutrition of the A. M. A. Second Edition. New York, Philadelphia, Toronto, The Blakiston Company. 1951.

Make no mistake about it. The time is fast approaching when no physician will feel adequately fitted for his profession who does not have a scientific understanding of nutrition since nutrition is rapidly becoming applied human biochemistry. To prepare for this day the Handbook of Nutrition recently published under the auspices of the A.M.A. serves admirably; (1) to bring together in one volume much that is now known about protein, fat, carbohydrate, vitamins and minerals and (2) to reacquaint the physician with recognized experts in each field whose further publications may be followed in the Journal of the A.M.A. and other medical literature.

To reveal one of the reasons why physicians must keep up-to-date, Dr. James S. McLester states in the foreword: "Only a few years ago a host of ills were ascribed to protein decomposition products, and anything approaching liberality in protein intake was believed to be distinctly harmful. All of this is now changed. The physician has made a complete about face, and clinical opinion enthusiastically favors rather than frowns on a liberal protein allowance."

The book contains over 700 pages.—Lucille Spire Blachly, M.D.

SAVAGE SON. Oren Arnold. University of New Mexico Press, Albuquerque. 1951. Price $4.50.

In this attractive little volume of approximately 300 well printed pages, the author has vividly presented the exciting saga of a savage Apache Indian from the remote Arizona desert. Barely escaping the massacre of his people at the hands of the Pimas; released from captivity to an educated parepatetic photographer at the age of six for 30 pieces of silver; rapidly achieving civilization through worldly knowledge, travel and formal education apparently aided by a spark of genius; the study of medicine with a remarkable medical career at various agencies under the Indian Bureau culminating in a busy practice with high professional rating in Chicago and finally the development of diabetes and pulmonary tuberculosis with complete reversion to the blanket on the Arizona desert where he died with the bare necessities known to his tribe at the time of his birth in the 1860's.

Knowing from personal experience the potential possibilities for his people (all Indians) and observing the traditional shortcomings of government paternalism, he became militant in his fight for racial freedom with socio-economic and moral opportunities. Being utterly disappointed in the Bureau's response and the Indians' indifference, this bouyant popular Chicago physician succumbed to both physical and mental exhaustion and apparently assumed the racial silent, fatalistic attitude not only toward his beautiful wife but towards his friends and his work and disappeared from the scene of civilization.

There is pleasure in the reading of this story and for Oklahomans who live in contact with nearly one-third of all the Indians in the U. S., it should prove profitable.—Lewis J. Moorman, M.D.

PROCEEDINGS OF THE SECOND CLINICAL ACTH CONFERENCE. John R. Mote, M.D., Editor. Two volumes. The Blakiston Company, 1951.

In 1950 the availability of fairly large quantities of ACTH resulted in the acceleration of investigative and therapeutic studies. In order to exchange further information and data between investigating groups, the Armour Laboratories called the Second Clinical ACTH Conference in December, 1950. One hundred and four papers were presented.

The proceedings are published in two parts—a first volume designated as "Research," and a second volume designated as "Therapeutics"; but there is of necessity a constant overlapping in both volumes since all the papers are presentations of research either fundamental or clinical. Study of these two columes reveal a marked extension of knowledge concerning the role of the adrenal gland in health and disease, and the practical applications of ACTH in treating different disease syndromes. In the first volume stress is on the role of the adrenal cortex in electrolyte, carbohydrate, protein, fat, and vitamin metabolism. Effects of adrenal cortical stimulation on liver disease and on hemopoietic system are presented. Other studies relate to inflammatory disease, especially of the eye, and the tissue response to injuries, especially burns. Finally results of studies on development of antibodies and hypersensitivity are presented.

In the second volume, after papers of general interest such as long acting forms of ACTH, intravenous use of ACTH, the possibility of relative Adrenal Cortical insufficiency in many diseases, results of treatment with ACTH in various diseases are presented. The number of disease syndromes where the drug is indicated has been reduced. The reader is impressed with this as he reviews the studies on metabolic or endocrine abnormalities, muscular and demyelinating diseases, malignancies, hemopoietic diseases, surgical and stress conditions, infectious diseases, hypersensitivity states, inhibition of tissue reaction to toxic materials, acute inflammatory conditions of unknown etiology, skin diseases and collagen diseases.

The result of the studies reveal that the problems of the therapeutic use of ACTH in the treatment of specific disease syndromes, though substantially clarified is far from solved. Those who would use this potent drug should study these two volumes and follow closely the succeeding publications.—Sumner Yale Andelman, M.D.

Rx FOR MEDICAL WRITING. Edwin P. Jordan, M.D. and Willard C. Shepard. W. B. Saunders Company. 1951.

This brief, concise book of less than 100 pages should be essential to anyone who contemplates writing a book or even a paper on a medical subject.

The book is divided into essentially three parts, the chapters on medical writing, the chapters on illustrations, and the appendices.

The chapters on medical writing are systematic and concise and cover the preliminary needs, the various drafts of the manuscript, the need for a beginning that will inspire the reader to continue and an ending that will cover the summary and conclusions adequately.

The chapters on the illustrations cover the subject thoroughly and contain enough illustrations to explain the need and type of illustrations best suited to the manuscript contemplated.

The remaining chapters cover in detail the subject of the use, the essentials, and the various types of statistics that are employed in medical papers and by reading this summary the medical writer will certainly improve the presentation of this portion of the manuscript which in so many cases are essential for a good presentation of the subject.

The appendices cover the important subjects as references, abbreviations, proofreader's marks, and various essential tables that are important for a finished paper.

The book can be recommended as essential for practically all members of the medical profession as at some time everyone prepares a manuscript for presentation before some branch of the medical association and by properly preparing himself by following the essentials as outlined here, the medical writer can present a better medical paper in a more concise manner, cover the subject adequately without using unnecessary words, illustrations and statistics.—E. Eugene Rice, M.D.

CLASSIFIED ADS

FOR SALE FOR CASH: Standard office scale, adjustable chair table, instruments (including forceps, scissors, knives, probes, speculae, etc.), instrument stand with glass enclosed cabinet, monocular microscope, Simplex one-speed centrifuge (electrically operated), leather ob. bag and leather Boston bag (medicine case), both bags fitted. Library includes texts old and new and Davis' Gynecology and Obstetrics, and Tice and Brenneman's Practice of Pediatrics. For further information contract Mrs. H. A. Higgins, 820 E. Street, N.W., Ardmore, Phone 4894.

OKLAHOMA MEDICAL RESEARCH FOUNDATION

(Continued from Page 235)

hormone, and has found that in animals it causes diuresis of phosphorus in the urine, but it does not change the phosphatase enzymes in the kidney.

In summary, therefore, the problems of calcium metabolism and bone disease, particularly the bone disease of aging people and atrophy of disuse, are under intensive investigation at the Oklahoma Medical Research Institute. A number of other important problems are being studied by the personnel of the Institute, utilizing the facilities of the University of Oklahoma School of Medicine, University Hospital with its clinics, the laboratories of the Research Institute and the facilities of the Research Hospital. The investigations in the field of endocrinology and metabolism have already attracted considerable attention among physicians, and it is anticipated that when this phase of the program of the Oklahoma Medical Research Foundation gets fully activated, it will be of great interest to the physicians and to the citizens of the State.

PATRONIZE

JOURNAL

ADVERTISERS

A BIG TIME-SAVER FOR EVERY DOCTOR

This handy booklet for new mothers was "built to doctors' orders". It contains blank forms for filling in your instructions and formulas.

It provides a permanent case-history record. A memo will bring you a sample...or as many as you want for your daily practice... without obligation.

Many doctors are prescribing "Daricraft Homogenized Evaporated Milk". It is always uniform, safe, sterilized, easy to digest, and high in food value and minerals. Daricraft contains 400 U. S. P. units of Vitamin D per pint.

PRODUCERS CREAMERY CO., SPRINGFIELD, MO.

BONE AND JOINT HOSPITAL

McBRIDE CLINIC

605 N. W. 10th ST., OKLAHOMA CITY

A STANDARDIZED HOSPITAL
FOR ORTHOPEDIC SURGERY
AND FRACTURES

STAFF
EARL D. McBRIDE, M.D., F.A.C.S.
ELIAS MARGO, M.D., F.I.C.S.
HOWARD B. SHORBE, M.D., F.A.C.S.
WILLIAM WALDROP, M.D.
RUSSELL HARRIS, M.D., F.A.C.S.

ARTHRITIS AND
RHEUMATIC DISEASES

STAFF
WM. K. ISHMAEL, M.D., F.A.C.P.
J. N. OWENS, JR., M.D., F.A.C.P.
LUCILE BLACHLY, M.D.
J. L. RYAN, Physiotherapist

PATHOLOGY LABORATORY

DIRECTOR — J. N. OWENS, JR., M.D., DIPLOMATE
AMERICAN BOARD PATHOLOGY

SPECIAL ATTENTION TO THE
PATHOLOGY OF BONES AND JOINTS

PHONE 2-5294

C. E. BABCOCK, DIRECTOR